Reflections on the Origins in the Post-COVID-19 World

Salman Ahmed Shaikh

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Foreword

During uncertain times and events, such as this pandemic, the mind often reflects back on issues in more depth. This short book brings together a faith-based perspective involving answers to existential questions and the origins of everything.

The author possesses many interests, including philosophy, history, science, and culture. Along with this range of interests, the author as a trained economist shows different perspectives in a clear manner. For people who enjoy a combination of philosophy, spirituality and the interlinking of science and religion revolving around inquiries of existence, origin, and the purpose of life, this book will provide a stimulating read. The author discusses the limitations of scientific and mathematical tools in fields like economics.

One chapter focuses on modern society and the role faith plays in it. It highlights the ability of religious values to provide assistance in assembling resources and influencing actions to handle climate change and sustainability challenges. Also, these values can help meet the UN Sustainable Development Goals through increasing commitment and collaboration. References for religious values regarding consumption and economic enterprise present a helpful insight about the connection of morality and economics. The last chapter provides a clarification dealing with misconceptions revolving around Islam. As many countries pool skilled human resources from multiple locations, diversity of cultures is unavoidable. Through understanding one another better, diversity and pluralism can help us come together rather than pulling us apart. Therefore, the last chapter is an effort from the author to clear up any misunderstandings involving his faith Islam.

The tone for the book allows discussion that is captivating, insightful, and persuasive. The book is an excellent choice in order to increase one's knowledge of spiritual and faith-based viewpoints which are shown through the book involving different themes.

Prof. Dr. Mohammad Kabir Hassan
University of New Orleans

Preface

Corona Virus has affected millions of people and killed hundreds and thousands of people already across the world. Almost all routines of life have been affected. Our tremendous journey in scientific, technological, industrial and economic advances has come to a pause for a while in the last few months. As we ponder over origin of Corona Virus, it is high time to also reflect and think over origin of everything and explore answers to deep questions about meaning and essence of life.

Why are we here on earth? What is the purpose of life? Why do we have consciousness and conscience to differentiate between good and evil? We do not see fairness and justice around us, but can we ever have fairness and absolute justice? What is the essence and purpose of life? Are we just passing few days of brief stay in life without a purpose? What it means to act in good ways and avoid evil? What is the objective criteria and standard to judge good and evil?

We have longing to live without ageing, live without pain, live without constraints, live with everlasting happiness and see absolute justice and fairness. But, life of every human being with all the possessions, potentials, aspirations, contentment, problems and sorrows ends eventually and often abruptly. What is the essence of goodness, kindness and charity and how is it different from evil, arrogance and avarice? Why we feel an innate urge to act in good ways and avoid bad actions? What is the essence of an individual's good and bad acts if life as well as death in the world remains unfair for many? This short book engages and invites readers to together seek answers from science, philosophy, and spirituality.

Salman Ahmed Shaikh

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Chapter 1

Making Sense of our Existence

1.1 : Life is Improbable, But Here We Are

In his book, 'A Brief History of Time', Prof. Stephen Hawking writes:

> **"If the rate of expansion one second after the Big Bang had been smaller by even one part in a hundred thousand million million, it would have recollapsed before it reached its present size. On the other hand, if it had been greater by a part in a million, the universe would have expanded too rapidly for stars and planets to form.[1]"**

British mathematician Roger Penrose has calculated the probability of the emergence of a life-giving cosmos[2]. Strikingly, it was 1 divided by 10, raised to the power 10, and again raised to the power of 123, i.e. $(\frac{1}{10^{10^{123}}})$.

We also know now that the universe is expanding at an accelerating rate. Scientific estimates suggest that the age of the universe is estimated to be 13.7 billion years. As per scientific estimates, from Big Bang to origin of life, the numerous variables had to be accurately fine-tuned.

Steven Weinberg argued that the cosmological constant must be zero to within one part in roughly 10^{120} (and yet be nonzero), or else the universe either would have dispersed too fast for stars and galaxies to have formed or else would have recollapsed upon itself before the emergence of complex life-forms[3].

Rene Descartes said '*I think, therefore I am*'[4]. We exist in this universe. But, who created this universe, us, our consciousness, our conscience and our will if this universe had a beginning and it came into existence 13.7 billion years ago through Big Bang? Some argue that through random natural and physical processes over millions of years, we have come to exist and now have consciousness, conscience and will. Now, the odds of this happening all by chance are incredibly small and unthinkable.

Allan Sandage finds it quite improbable that such order can come out of chaos. He asks the question which Leibniz posed earlier: *"Why there is something rather than nothing.*[5]**"**

Nobel Laureate William D. Phillips shares his view as follows: *"The observations about the orderliness of the physical universe and the apparently exceptional fine-tuning of the conditions of the universe for the development of life suggest that an intelligent Creator is responsible."*

Furthermore, Albert Einstein shares his view in one of his statements: *"Everyone who is seriously committed to the cultivation of science becomes convinced that in all the laws of the universe, is manifest a spirit vastly superior to man, and to which we with our powers must feel humble.*[6]**"**

Any chain of the physical processes would start from something. The nature of it could be described by anything like empty space and so on. Prof. Lawrence Krauss attempts to answer existence alternatively by redefining his notion of something as 'nothing' through the use of quantum mechanics. He says that empty space is a boiling, bubbling brew of virtual particles that pop in and out of existence in a time scale so short that you cannot even measure them[7]. David Albert rightly contests this position. He writes:

> **"Relativistic-quantum-field-theoretical vacuum states — no less than giraffes or refrigerators or solar systems — are particular arrangements of simple physical stuff. The true relativistic-quantum-field-•theoretical equivalent to there not being any physical stuff at all isn't this or that particular**

arrangement of the fields —it is just the absence of the fields![8]"

Our sun could hold 1.3 million earths. There are around 200 billion stars in a galaxy like our own Milky Way. Now, scientists can see a great number of galaxies through powerful telescopes. We know from astrophysics that one light year equals roughly 10 trillion kilometers. The diameter of the observable universe is around 150 billion light-years and the universe is expanding ever so rapidly.

To explain fine-tuning, a group of scientists also suggests that we might be living in just one of the infinite universes where life-supporting conditions just happen to be there in their most precise form for life to exist and evolve. Quantum mechanics has puzzled people a lot including scientists. It puzzled Albert Einstein as well for a long time. It has raised fundamental questions about the nature of reality. When we observe subatomic particles, velocity and position of the subatomic particle is influenced by observation. Some scientists try to explain this problem through parallel universes.

Prof. Brian Greene in an interview explained this idea as follows: "*If we have an infinite expanse with only a finite number of different possibilities, the possibilities have to repeat. With an infinite universe and only a finite number of different complexions of matter, the way in which matter arranges itself has to repeat. So, our collection of matter right now, with you interviewing me, is repeating itself out there in the cosmos.*"

He further said that when we study the mathematics of quantum mechanics, we still do not understand how to go from the fuzzy probabilistic description (that the particle might be here, and it might be there) to the single, definite, absolute reality that we see when we do the measurement. We never find the particle partly here and partly there. We always find it definitely here or definitely there. How do we go from the probabilities to the definite outcome? Prof. Greene referred us to Hugh Everett who in 1950s, suggested a radical way to deal with this problem. He said that there are two possible outcomes. The particle can be here or there. Therefore, what happens is there are two universes. In one universe, the

particle is here; in the other universe, it's over there. And there's a copy of you in each universe measuring that particle and thinking, incorrectly, that 'that particle's unique location is the only reality'. But, in fact, there are two of you thinking that. There are two realities, two parallel universes[9].

The idea of multiverse is untestable. Prof. Greene also does not follow the mathematical logic behind the idea completely to hold with certainty that there are infinite multiverses. Many scientists think that this idea is not even scientific as long as it is untestable. It is trying to explain this world by too much than what is needed or warranted. Mawson uncomfortable with this idea writes:

> **"The colour of gems stay the same every time we see them. In other words, if infinite universes existed, then there should be infinite changes to our observations of the universe and in essence be unpredictable in infinite ways, yet this is not what occurs.[10]"**

Emeritus Professor of Mathematics at the University of Oxford, Dr. John Lennox says: "*To postulate a trillion-trillion other universes, rather than one God, in order to explain the orderliness of our universe, seems the height of irrationality.*[11]" In this context, Edward Robert Harrison presents a choice: "*Chance that requires multitudes of universes or design that requires only one*."[12]"

Prof. Richard Dawkins titles his book "The Greatest Show on Earth: The Evidence for Evolution[13]". But, it could only potentially explain how the show runs and it cannot explain that who directed it, produced it and is administering it if the show is still live. It is pertinent to ask what Prof. Stephen Hawking also finds perplexing:

> ***"We find ourselves in a bewildering world. We want to make sense of what we see around us and to ask: What is the nature of the universe? What is our place in it and where did it and we come from? Why is it the way it is?[14]"***

1.2 : Why Are We Here?

Plato is quoted to have said: "Man is declared to be that creature who is constantly in search of himself - a creature who at every moment of his existence must scrutinize the conditions of his existence. He is a being in search of meaning.[15]*"*

We enjoy free sunshine, oxygen, water and life-supporting climate to live. The blessings and hardships are good and bad only till we are alive. All social problems and their solutions become irrelevant when we are no more. Beneath all the chaos and clutter and hopes and fears, we need to reflect on what is the purpose of life?

The twentieth century can well and truly be regarded as the century of modern science. Science has made us understand the physical world better and to make the ever-more effective use of matter around us. The comforts of life that a common person takes for granted were not available to even the Kings and the Royals of the past.

Nonetheless, along with advancements in science and technology, over 200 million people died in the last century in wars. On average, if 5,500 people die on every day of a century, only then it will reach the figure of 200 million. Is extinction merely a rearrangement of molecules, even if it happens to humans via nuclear weapons? We need better humans, morality, values and a social contract that can make us live better, meaningful and fulfilling lives. The technological advancements do not make right as wrong or wrong as right. In fact, if values are undermined, then the same technology can be used for more destruction rather than for social benefit.

Using free will, we can use the moral screening provided by conscience to act in good ways. But, if I believe that this life is the only life, then why shall I use my limited time, income and abilities to help others? How can absolute justice be provided in the crime of genocide? Even in other crimes, with perfect monitoring, prosecution and law enforcement, the suffering caused is irreversible.

Our outlook on the universe will be different based on the meaning we attach to our relationship with the universe. From Physics perspective, extinction is merely a rearrangement of atoms, even if it happens to millions of humans via nuclear weapons.

Prof. Stephen Hawking once said: *"We are the product of quantum fluctuations in the very early universe.*[16]*"* Prof. Neil deGrasse Tyson also remarked that it is possible that our entire existence is a program on someone else's hard drive and that everything in our lives is just a creation of some other entity for their entertainment[17]. The physical appearance of life can be studied as biological and chemical processes, but is life just all that?

Humans live in society and exercise their free will in socio-economic relations. Unlike the dials in a well-functioning clock which do not intersect, humans have the potential to be compassionate or not to be. But, why should I part with my time to help some stranger I might never meet again or for someone who lives miles away from me? Why should I part with my wealth if it is scarce, legally belongs to me and so nobody could question what I would decide to do with it in life?

Science seeks cause-effect relations in physical realities. Mathematics is one of the tools to guide this search in complex relationships. Some scientists exclusively focus on material processes. So, they only extract the deeper meaning as regularity and algorithm itself. Science can only help us thus far. The reflection on nature and its regularity around us requires a philosophical underpinning for deeper meaning.

Columbia University Professor, Dr. Brian Greene elucidates that Science is very good at answering the 'how' questions. How did the universe evolve to the form that we see? But it is woefully inadequate in addressing the 'why' questions. 'Why is there a universe at all?' These are the meaning questions, which many people think religion is particularly good at dealing with[18].

Cooking is not chemistry and chemistry alone. When cooking starts, what ingredients are involved at the most indivisible level and how they mix together is part of reality. The second set of reality is who

is cooking, why and for whom? The cook and hunger as part of reality are as much important as the knowledge of how the ingredients mix to become eventually a prepared ready-to-eat food. We drink so that we quench thirst. 'Why' in what happens is part of reality as much as 'how it happens'. If a person asks who made the computer, the answer is not sufficient if it only describes the materials and processes through which the computer was created. Prof. Seyyed Hossein Nasr writes:

> ***"The idea of reductionism which is innate to modern science could be described as the reduction of the spirit to the psyche, the psyche to biological activity, life to lifeless matter and lifeless matter to purely quantitative particles or bundles of energy whose movements can be measured and quantified.[19]"***

Science concerns with 'how it happens'. That is not the complete description of reality until we also know 'why it happens'. Albert Einstein in his essay 'Science and Religion' writes:

> ***"Knowledge of what is does not open the door directly to what should be. One can have the clearest and most complete knowledge of what is, and yet not be able to deduct from that what should be the goal of our human aspirations. Objective knowledge provides us with powerful instruments for the achievements of certain ends, but the ultimate goal itself and the longing to reach it must come from another source."[20]***

The intellect with which we discover knowledge about the matter in physical sciences to answer the question of 'What is' and 'How it is' and the conscience with which we differentiate between right and wrong, are neither our own creation nor have they appeared by themselves. Electrical appliances function in full compliance with the mechanical and electromagnetic principles, but their existence is not the result of such natural laws alone.

Prof. Richard Dawkins sharing his thoughts says: *"After sleeping through a hundred million centuries we have finally opened our eyes on a sumptuous planet, sparkling with colour, bountiful with*

life. Within decades, we must close our eyes again. Isn't it a noble, an enlightened way of spending our brief time in the sun, to work at understanding the universe and how we have come to wake up in it?[21]*"*

But, why have we come to wake up in it and why we would sleep again after death. What meanings our moral and immoral choices have if these choices and actions are not fairly rewarded or punished in the brief moments under the sun?

Scientists study the minute aspects of hospitality in our visit to the world and have reached the conclusion that life exists on a knife's edge. But, should we not accept and thank the host? Should we just spend all the time and energy in looking at the facilities provided by the host and their immaculate discipline and order? The laws of nature that we study exist independent of us. As guests in this finely tuned earth which requires life-supporting systems, can we reject the host by knowing and enjoying all the facilities? All that we have done with science is to be able to use the matter existing in the universe to make our lives more useful.

By learning syntax of programming languages, we can learn to make new and variety of computer programs, but it does not negate the inventor of the programming language. Matter had existed before we had human life in the universe. We had only learnt to use matter in different ways.

Scientific enterprise does not run nature, but merely tries to understand it. Sun, moon, seas, rivers, mountains, forests, clouds and basic chemical elements had all existed even before we arrived in this universe.

Consider a person who is asked to review a novel authored by some other person. The reviewer knows that he himself has not authored the novel. He reads most of the pages of the novel meticulously. He goes through the dialogues of characters carefully. Now, the reviewer can summarize most scenes of the plot in a generic way. In the story line, the author does not come explicitly as a character. In describing different scenes, the reviewer refers to characters in the novel. Each character gives way to the next character through a

physical process that is explained in the novel. What if the reviewer describes characters and the scenic details, but eventually ignores the author and claims the piece of writing as author-less because the author is not an explicit character in the novel and each character emanates from another character through a physical process described in the novel.

What if he says that the novel has characters and their emotions, physical attributes and personality can be understood from the words in the novel and hence there is no need of attributing the novel to an author? What if this claim is made after finding few more intermediate pages of the novel and some more characters? If we would be puzzled to see this conclusion about a novel, imagine if this conclusion of 'no author' is reached about real characters in real existing life which runs into billions of species in a gigantic scenic environment which has immaculate details and complexity. One can describe how the author brought it about without reference to author, but it cannot negate the existence of the author altogether.

When we look at a computer program and find loop in the code which enables the program to run endlessly, it does not mean that there was no author and that the endless program had no point of start. If an executable computer program is run and complex animation appears on screen which runs and runs with unique things appearing from time to time, one cannot imagine that the program was made from nothing and by no one and it just came by chance.

Prof. Lawrence Krauss in his book 'A Universe from Nothing' suggests that the universe came about from nothing and which may one day return to nothing via processes that may not only be comprehensible but also processes that do not require any external control or direction[22]. But, George F. R. Ellis aptly asks: *"Why the laws of physics exist? Why they have the form they have?[23]"* Prof. Pervez Hoodhbhoy in his book 'Muslims and Science' writes that science does not have any explanation for the origins of physical laws and it cannot reject the claim that these laws might have been decreed by a divine God[24]. Even Prof. Stephen Hawking admits:

> ***"Even if there is only one possible unified theory, it is just a set of rules and equations. What is it that breathes fire into the equations and makes a universe for them to describe? The usual approach of science of constructing a mathematical model cannot answer the questions of why there should be a universe for the model to describe.[25]"***

Modern science has not created anything that does not exist in the universe. Rather, it has made use of matter which already exists in the universe. The properties in matter exist not because humans have created them.

Science is knowledge established by observation and experimentation through an objective process. Scientific knowledge substantiates that the design, variety and balance found in the universe illustrate complexity, intricacy and detail. Science tries to disentangle useful knowledge about the matter so that this knowledge can be put to effective use. But, as Nobel Laureate Richard Feynman explains 'science cannot be an arbiter in moral matters'[26].

Prof. Stephen Hawking in an interview once said: *"I believe the universe is governed by the laws of science. The laws may have been decreed by God, but God does not intervene to break the laws.[27]"* What eludes us is to think about the meaning of our own lives. We would do research in distant galaxies, distant past of the universe and in the smallest particles of matter, but we remain ignorant about the meaning and purpose of our own existence. Prof. Brian Greene once said: "*Sometimes nature guards her secrets with the unbreakable grip of physical law. Sometimes the true nature of reality beckons from just beyond the horizon.[28]"*

Nature and natural laws do not explain the deeper meaning of life. They are in need of explanation themselves for their origin, purpose and designer. Descartes said: I think, therefore I am. It is also important to think 'why I exist and where will I be when I am not (alive).'

When we take a taxi or boat or an airplane on a certain route, we do not question the existence of the car, for example. Rather, we

might ask: Does it run by itself or is there a skillful driver behind the wheel?! If we look at a building, we will immediately believe that an architect has built it. How will it sound that some wood, steel, stones, and paint have gathered by themselves and on their own and in a certain fashion built that building for human beings to dwell therein? Those who do not believe in God apply this logic to a tiny object like a car, but not to a grand object like the universe and all the complex life and support systems and processes within it which run to perfection day after day and centuries after centuries.

The ability to make machines can be used for more effective food production, distribution, clinical cures and better health. On the other hand, the same ability can be used to decimate species including human beings. The record of science taking a solo flight by discarding values in recent times has not impacted our technical progress, but it has resulted in the unprecedented loss of human lives in wars, extinction of species, ecological imbalances and irreversible damage to the environment.

Many scientists in the past did not regard scientific discoveries as a challenge to faith. They understood that what had been offered by modern science are better explanations of physical phenomena rather than finding a newer source of origin, creation and 'will' behind the physical phenomena. Isaac Newton is quoted to have said that gravity explains the motions of the planets, but it cannot explain who sets the planets in motion[29].

Rediscovering regularity in physical realities is not the end-objective of existence. How we develop as adults from birth as an individual and how and when homo-sapiens as a whole came to exist in this form physically is all beside the point as far as the basic questions of purpose, essence and meaning of life are concerned. Albert Einstein in his essay 'Science and Religion' states:

> ***"The knowledge of the truth as such is wonderful, but it is so little capable of acting as a guide that it cannot prove even the justification and the value of the aspiration toward that very knowledge of the truth. Here we face, therefore, the limits of the purely rational conception of our existence.[30]"***

Prof. Karl Popper explains that *"In so far as a scientific statement speaks about reality, it must be falsifiable: and in so far as it is not falsifiable, it does not speak about reality*[31]*"*. Putting ideology over a descriptive falsifiable theory is a different matter than just the scientific and physical aspects of the theory itself. Theory of evolution attempts to describe the process through which life comes to exist. This theory does not concern with the question of the meaning of life itself. It is erroneous to use it as evidence to support a godless philosophy of life. Michael Ruse, even though an atheist, aptly writes: *"Evolution is promoted by its practitioners as more than mere science. Evolution is promulgated as an ideology, a secular religion.*[32]*"*

Dr. Francis Collins, Director of the National Human Genome Research Institute in USA feels no problem in his religious beliefs and his work in evolutionary biology. He explains that theory of evolution describes biological evolution and functions. Human beings have special attributes like moral conscience, aesthetic sense, inquisitiveness and curiosity. Dr. Collins reasons that evolution describes our biology and it is still just the description of how God created us[33].

Animals wake up, find food, eat, sleep and wake up again. Are humans also supposed to have the same purpose only? Conscience may not err in helping to differentiate between right and wrong, but the right ethical choice may not be chosen if it conflicts with self-interest. If I believe that this life is the only life, then why shall I use my limited time, income, abilities and resources to help others? If I am just part of an evolutionary process, why should good and evil matter? Why should conscience and ethics in any way be different from dust and air?

Prof. Richard Dawkins in his book 'God Delusion' states that we do not need religion to be moral[34]. If we assert that we do moral behaviour instinctively for ensuring survival only, then, there is nothing good and bad essentially.

Sam Harris writes that *"Most of what we currently hold sacred is not sacred for any reason other than that it was thought sacred*

yesterday.[35]*"* There are no objective morals then. Sam Harris is skeptical of free will. If that view is taken, then all judiciary and penal laws shall cease to exist. But, do they or would they? Seyyed Hossein Nasr aptly asks:

> **If the human being is nothing but the result of 'blind forces' acting upon the original cosmic soup of molecules, then is not the very statement of the sacredness of human life intellectually meaningless and nothing but a hollow sentimental expression? Is not human dignity nothing more than a conveniently contrived notion without basis in reality? And if we are nothing but highly organized inanimate particles, what is the basis for claims to 'human rights'?**[36]

William Palley and Voltaire used the analogy of Watchmaker for their perception of god[37]. Voltaire is quoted to have said: "*I cannot imagine how the clockwork of the universe can exist without a clockmaker*[38]". Science is not a good barometer for hypothesizing about God's personality. In fact, it cannot be a perfect way to know anyone's personality. Our medical reports, tests and the various chemical components in our bodies only describe our biology, chemistry and physics, but not our soul and inner self. Explaining evolution by natural selection, Prof. Richard Dawkins modifies the analogy as 'blind watchmaker' by saying that *"the only watchmaker is the blind forces of physics.*[39]*"* Prof. Krauss also shares his view: "*Without science, everything is a miracle. With science, there remains the possibility that nothing is.*[40]*"*

But, who made the natural laws? Who made the fundamental forces of physics? Who makes them work? Who created the physical forces and their exact characteristics and their rules of operations in the universe? Who created the primordial inputs which are required for life to evolve?

C. S. Lewis aptly writes: *"We are in the habit of talking as if laws caused events to happen; but they have never caused any event at all."* He further adds: *"Every law, in the last resort, says 'If you have A, then you will get B'. But first catch your A: the laws won't do it for you.*[41]*"* Dr. John Lennox also explains this fact fittingly: *"A*

law of nature, by definition, surely depends for its own existence on the prior existence of the nature it purports to describe.[42]*"*

Carrol poses and answers this interesting question: "*Do advances in modern physics and cosmology help us address these underlying questions, of why there is something called the universe at all, and why there are things called 'the laws of physics,' and why those laws seem to take the form of quantum mechanics, and why some particular wave function and Hamiltonian? In a word: no. I don't see how they could.*[43]*"*

The perception of god in the view of scientists and philosophers who do not believe in God is 'god of the gaps' which has to be invoked as an ad hoc presumption to bypass material explanations in certain instances where physical answers and explanations are absent for the time being. Their argument is that if a physical explanation can take us back to relying on some finite number of constant values related to forces and energy, then why to invoke god to fill the gap.

If we make intelligent robots, they can only know about their inventors and creators if that knowledge is inbuilt into them. Their recognition or non-recognition does not make any difference about the fact that they have been created by someone. Furthermore, their best source to know about their creator is the knowledge given by the creator itself.

Similarly, divine scriptures including Qur'an talk about One Creator for the universe and accountability for actions in life hereafter for the actions we undertake in this world using our free will. This worldview satisfies one's quest for answers about meaning in life, about absolute justice and has the potential to engender self-less, moral and altruistic choices which are socially good. Yet, this knowledge is overlooked to evade responsibility which comes with this answer.

Even if we do not know anything about the cosmos and how it runs, the fundamental questions about the meaning of our own lives stick in mind no matter whether the universe had and have whatsoever biological, chemical and physical properties. Faith in God or in religion is not concerned essentially with the steps and 'how it is' of

and behind things. The things which we are able to explain through science relate to the physical phenomena. The existence of a being as a whole and with its physical parts and processes still begs the question 'why' and 'for what end'? Belief in God is a logical and rational answer to life, its variety, its design and the complexities of supporting ecosystem that we observe. What gives any of our actions meaning is the belief in accountability which promises absolute justice to every intentional act.

Some scientists who do not believe in God concede the way to deity, an impersonal god who makes the watch and then the watch keeps on running; a simulator who makes the simulation which keeps on running and a programmer who makes the program with loops and nested loops which keeps on running after executed.

As artists, when we make a piece of art as painting, poetry and novel, we project the work in exhibitions, publish it and explain it at length in different forums as long as we live. As scientists, when we make a discovery, an invention or find answer to physical realities, we project the work in science exhibitions, publishing in journals, teaching in classrooms and educating the masses through books, podcasts and televised programs. We seek copyrights and patents to keep the work we have created and discovered as ours and we like to be identified by our works and contributions. Then, God, Who has written the laws of physics, Who created everything in the universe and Who brought this universe and us into existence, would be oblivious to it? Would not he contact us and communicate with us about our purpose of existence? Indeed, the known history we have with us proves that the concept of God has remained in every human civilization. The teachings of messengers sent for reminding about oneness of God and accountability in life hereafter have been spread throughout in our known history. The last two messengers, Jesus (pbuh) and Muhammad (pbuh) lived in the daylight of history and whose followers now comprise almost two-thirds of the human population.

Some scientists are open to the idea that aliens brought the fundamental particles of life from outer space, but not to believe in an intelligent being, Who has given existence to fallible creatures like humans. The Nobel Prize winner Francis Crick, along with Leslie

Orgel proposed that life may have been purposely spread by an advanced extra-terrestrial civilization[44].

We can recognize our fallibility and intelligence at the same time. If we have some intelligence, why we hesitate in assuming that our Creator would be more intelligent Who has brought us into existence for a purpose rather than assuming a deity as an unconcerned watchmaker, a simulator among future humans, a mathematician, a master equation and a random space travelling alien. We are searching for alien life since last century through expensive experiments and advanced instruments to no avail yet.

But, what is puzzling is that there is not a single reference to a religious text by scientists who do not believe in God like Prof. Richard Dawkins, Prof. Lawrence Krauss and Prof. Stephen Hawking. They have made no effort and attempt to pay attention to the signals conveyed in the religious scriptures. They mock the believers and do not realize that more than half of their own colleague scientists are not outright atheists even in this age of misinformation and massive propaganda and arrogance about faith.

The problem of specialization of knowledge makes them reach conclusions which are bounded by the specific jargon and scope of their disciplines. Prof. Dawkins as a biologist asks naïve question that if there is complexity in observable life, then what will be the biological complexity of the Creator. Atheists who belong to physics profession try to ascribe origins to physical forces and physical laws. Physicists like Prof. Michio Kaku having a mathematical orientation describe God's mind as 'Music of strings resonating through 11 dimensional hyperspace'. Technical entrepreneurs like Elon Musk describe existence as part of a possible simulation. Unfortunately, there is no serious effort to understand the point of view of faith beyond the narrow confinements of one's field of specialization.

Loneliness greets us in space. Fermi's Paradox in physics wonders 'Where is everybody'. Why stars that were born long before our sun could not create any life. Our earth is not a separate corner in the universe; it has its composition of atoms coming from the same material that exists in the universe. Outside of earth, we have not found a liveable place where we could even just breathe naturally.

The verses of nature in universe also reflect truth on those who want to wonder why there is life at all and for what purpose. Scientific discoveries have added more substance to the verse ‘Which of God's blessings will you forget’. Astrophysics has proved that there are too many features of blessings in various forms. Astrophysics has taken us near to the exact fraction of a second when God's command brought the Big Bang 13.7 billion years ago.

Big Bang can explain what happened afterward, but not what was before it, who was behind it and why did we come to exist in this world in the first place. We can force the question of purpose out of sight, but not out of significance and importance to a thinking mind.

Chapter 2

Benefits of Science and Its Scope

2.1 : The Scientific Method

In simple words, science is knowledge established by observation and experimentation through an objective process. Science tries to disentangle useful knowledge about the matter so that this knowledge can be put to effective use. For the physical world, this effective use encompasses understanding the nature of physical phenomena and using that understanding in applications of matter in developing and advancing technology.

As far as understanding the properties of matter is concerned with the objective of making our lives useful, religion does not oppose science at all. There is no inherent conflict between science and religion if the scope of both science and faith are duly understood and acknowledged. Faith based worldview does not oppose the use of various tools for obtaining useful knowledge and then using that knowledge for material ends both at an individual and at the societal level.

When one reads Qur'an, Allah is again and again inviting people to ponder over their creation, environment, ecology, design, variety and balance in the organization of matter in the universe in order to decipher the meaning of life amidst all these manifestations.

There is no restriction on planning or in using material resources provided to us by the Creator. In fact, Islam disapproves monasticism, encourages economic pursuits and asks us to choose the easier of available alternatives to provide comfort in our lives

as well as for others. Both the intellect and the matter to which we apply our intellect are created by Allah.

The question of 'why we exist' is the focus of religion. The question of 'what exists and how' is the focus of science. The drive for mutual help, engendering compassion, respecting biodiversity, intergenerational resource equity and sustainability requires upholding values which are strengthened by religion.

Prof. Lawrence Krauss explained that *"'Why' implicitly suggests purpose, and when we try to understand the solar system in scientific terms, we do not generally ascribe purpose to it."* The conflict between science and religion appears when a descriptive falsifiable scientific theory is presented as a substitute and evidence to support a godless philosophy of life. Theory of evolution attempts to describe the process through which life comes to exist in different varieties. All this theory can support is that different forms of complex life did not come to exist all of a sudden and at the same time. It merely identifies and explains intermediate steps in the long chain of events. The theory does not concern with the question of the meaning of life itself.

Prof. Karl Popper writes:

> **"The belief that we can start with pure observation alone, without anything in the nature of a theory is absurd. Observation is always selective. It needs a chosen object, a definite task, an interest, a point of view, a problem. And its description presupposes a descriptive language, with property words; it presupposes similarity and classification, which in their turn presuppose interests, points of view, and problems.[45]"**

Furthermore, Prof. Norman Campbell in his book 'What is Science' writes that since science always excludes from its scope conclusions which cannot be proved without differences, it can only help in deciding material means for material ends. Scientific preference for a means is only with regards to scientific effectiveness. Ranking the alternative means does not imply their absolute preference for employment in practical decision making. This logical conclusion

can only be reached when the end objective can be proved to be preferable. To provide proof for an end objective to be preferable over others is beyond science.

The real and fruitful jurisdiction of science is to understand the matter for its effective use by developing working and functional hypotheses, testing them and refining them to achieve this objective. Prof. Stephen Hawking explains:

> ***"Any physical theory is always provisional, in the sense that it is only a hypothesis: you can never prove it. No matter how many times the results of experiments agree with some theory, you can never be sure that the next time the result will not contradict the theory.[46]"***

Prof. Karl Popper in his book 'The Logic of Scientific Discovery' wrote: *"The game of science is, in principle is without end. He, who decides one day that scientific statements do not call for any further test, and that they can be regarded as finally verified, retires from the game.[47]"* He further writes that: *"Our aim as scientists is objective truth; more truth, more interesting truth, more intelligible truth. We cannot reasonably aim at certainty. Once we realize that human knowledge is fallible, we realize also that we can never be completely certain that we have not made a mistake.[48]"*

In explaining this important point, Prof. Karl Popper gives an analogy. He writes:

> ***"What we aim at is truth: we test our theories in the hope of eliminating those which are not true. In this way we may succeed in improving our theories-even as instruments: in making nets which are better and better adapted to catch our fish, the real world. Yet they will never be perfect instruments for this purpose. They are rational nets of our own making, and should not be mistaken for a complete representation of the real world in all its aspects; not even if they are highly successful; not even if they appear to yield excellent approximations to reality.[49]"***

Norman Campbell in his book "What is Science" writes that at no time, can it be claimed that science has reached the final and conclusive stage of reality in the analysis. This is not even claimed in most contemporary sciences. It is accepted that for any law, which seems plausible currently, it is still possible that the causal relation it explains is subject to change in future. He further writes that there certainly are problems and even practical ones where science cannot help us decide one way or the other. In serving people's needs, one of the biggest hurdles is that these limitations of science are not well understood. When sometimes science has been undermined or overlooked, it has happened because the scope of science has been unduly broadened to areas where it does not belong to and this has caused damage to the cause of science[50].

Albert Einstein in his essay 'Religion and Science: Irreconcilable?' writes: *"The function of setting up goals and passing statements of value transcends its domain[51]"*. He further writes: *"The independent and fundamental definitions regarding goals and values remain beyond science's reach."* Also, Norman Campbell in his book 'What is Science' states that like all bodies of knowledge, science has its limits and there are some external problems, whose nature is such that science cannot help in resolving them. This should never be overlooked. Despite helping us to understand the external world, science cannot give us even a clue as for what end we should use a particular force or energy[52].

Science cannot generate a 'worldview'. Huston Smith contends in his book "*Beyond the Postmodern Mind*": *"world implies whole and science deals with part, an identifiable part of the whole that can be shown to be part only[53]"*. Scientific knowledge is a special kind of knowledge, precise in its details but extremely restricted in its scope. The boundaries of science are drawn by itself. It is an enterprise limited to the quantitative study of the physical world. In this undertaking, natural sciences excel and show great prowess. Science becomes scientism and turns into poor philosophy when these boundaries are obliterated.

A descriptive theory might or might not adequately describe the physical process, but if it transcends boundaries of physical explanations and starts giving philosophical meaning of the reality,

then the latter endeavour is not within the scope of science. Theory of evolution might be an admissible scientific explanation of the physical process if the evidence supports it, but the Darwinian view of life beyond biology and into social organization is a philosophical conjecture.

Evolutionary biologist Kenneth Miller has argued that when scientists make claims on science and theism or atheism, they are not arguing scientifically at all and are stepping beyond the scope of science into discourses of meaning and purpose. What he finds particularly odd and unjustified is in how atheists often come to invoke scientific authority on their non-scientific philosophical conclusions like there being no point or no meaning to the universe as the only viable option when the scientific method and science never have had any way of addressing questions of meaning or lack of meaning, or the existence or non-existence of God in the first place[54].

The Creator in faith's perspective is the source of all physical and non-physical stuff and the laws which govern matter and the physical processes which convert matter into different inorganic and organic forms. He gave consciousness to human beings like He gave to all living things. We may have evolved into the specie we are. Like other living beings, our bodies are made up of matter that exists in the universe. Our biological body is a chemical composition. Faith essentially addresses not our chemical composition of bodies, but our personality and consciousness. Soul is embodied in our skull. Our physical body is made up of chemicals. Body is just the host of our soul. Animals also have bodies and some have similar chemical composition as ours in some respects.

But, our soul is given the innate and strong ability to differentiate right from wrong actions. We have likeness for and the wish to see fairness, justice, honesty, truthfulness and cooperation in the universe where species survive on survival instincts. These values reflect in our art, prose and poetry. If the feelings, emotions, aesthetics, values and morality are merely a chemical mixture, then our labs shall be producing Shakespeare, Rumi, Iqbal and Picasso just through chemistry experiments without any human intervention, instruction and programming.

Prof. Richard Dawkins says that he is passionate follower of Darwinian evolution, but not in favour of Darwinian view of organizing human life. Prof. Richard Dawkins sums up the Darwinian view of life as follows:

> **"In a universe of electrons and selfish genes, blind physical forces and genetic replication, some people are going to get hurt, other people are going to get lucky, and you won't find any rhyme or reason in it, nor any justice. The universe that we observe has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil, no good, nothing but pitiless indifference.[55]"**

Elisabet Sahtouris in her address at International Institute of Advanced Islamic Studies in Malaysia stated:

> **"Western secular scientific cosmology gave us a creation story in which you have a non-living universe starting with a big bang running down forever afterwards through entropy and then life evolving as an endless uphill struggle against this entropic destruction in which you have to compete to succeed. Unfortunately, eventually, the whole universe washes away because entropy overpowers life. Now to me, that is the most depressing creation story that any culture has ever told. There is no life in it except a losing battle in competition.[56]"**

Having conscience, we despise unfairness, injustice, unkind behaviour, lies, and dishonesty. The life does not seem to be fair. Sometimes, people with bad morals and actions survive, thrive and claim resources, power and fame. In contrast, people with honesty and upright character often struggle, underachieve and remain under-rewarded. Injustice happens to people and even entire nations. If we go by the morals of evolution, it should not bother us if there is extinction of species. However, our soul, which is our true identity, does not remain indifferent to harm, injury, destruction, injustice and unkindness.

Daniel Dennett writes: "*Human consciousness is just about the last surviving mystery*"[57]. Prof. Michio Kaku giving his remarks, states:

"*There are about 20,000 papers on consciousness with no consensus. Nowhere in history, have so many people devoted so much time to produce so little.*[58]" Not only consciousness, but why the physical processes have led to us having consciousness in the first place is beyond explanation through science or scientific method. Some scientists try to skip or assume this question away by denying consciousness.

Faith speaks to the soul and asks us to purify our soul. When faith gives guidelines about body, it is to make sure that the body hosting the soul should become pure by cleanliness and by being non-injurious to others. Even if we have evolved through a physical process to get our current physical form, it does not matter in the faith based worldview since the faith based worldview attributes every creature's origin and creation to the Ultimate Creator. But, we humans in our current form and nature have been given a strong ability to differentiate right from wrong actions. This ability is not within our chemical composition. We might be having same colonies of bacteria and cells like other animals. This is the chemical description of our body, i.e. the host which embodies the human soul and spirit. The ability to differentiate right from wrong is in our conscience. We like to act in ways that are essentially good and virtuous and dislike acts which are wrong and unjust. Yet, this world is not fair. Belief in afterlife accountability actualizes the cause and effect in moral matters. It will give deterministic results to every act of goodness and every act of evil. That makes life meaningful and purposeful. That enables us to look beyond our survival instincts in organizing life on the basis of moral values of justice, fairness, honesty, sacrifice and cooperation.

Corona Virus has once again reminded us that the world at the level of viruses and bacteria may operate on survival instincts alone where survival of the fittest is the only moral code. Human body structure might have evolved to be in the present form, but the Ultimate Creator has given us the human soul and spirit which has consciousness like animals, but also has conscience. To focus attention on consciousness alone is to live with survival instincts and ignore higher morals. To act on goodness suggested by conscience requires looking beyond animal instincts and embrace goodness as a

habit and wilful choice. Accountability in life hereafter urges that and promises cause and effect in moral matters.

The medical cure for Corona Virus can be sought keeping in view the viral behaviour in bio-chemistry. But, the cure for purifying human soul lies in looking beyond viral, bacterial, cellular and animal behaviour and paying attention to goodness in behaviour urged by the conscience in human soul.

In the Godless worldview, the battle of survival ends with destruction eventually for Corona Virus, bacteria, other unicellular organisms and multi-cellular organisms like animals and humans the same way. Humans having consciousness and conscience may define their personal meaning of life by themselves as to how best to spend few million breaths under the sun in maximizing self-pleasure. But, the life ends without due justice for many people who are killed, robbed and discriminated against and it ends without due punishment for many people who cause these crimes. Some are lucky and some are unlucky in the mortal combat of survival of the fittest.

Belief in single origin of life from the Ultimate Creator brings humility that we are one of many creations in the universe and should not be proud as all creatures have single source of origin, no matter howsoever they differ in the chemical composition of their bodies and respective strengths. Faith based worldview explains how and why humans are different from other species in their strong sense of morality. It urges them to be thankful to their Creator and shun any pride because they too belong to the same Creator. It informs them that their free will allows them to choose the right and wrong paths in life. After they die, they will be held accountable for the use of free will in choosing goodness over evil, ethical over unethical and fair over unfair acts. It will provide them the chance to earn eternal blessing if they choose the righteous behaviour. Else, they will be held accountable if they choose evil over goodness, unethical over ethical and unfair over fair acts. Not only this worldview makes life meaningful, but fulfils the aspiration of seeing absolute justice not just for oneself, but for everyone.

Author of the book 'Selfish Gene', Prof. Richard Dawkins once said that evolution is the biggest show on earth. We learn the characters in the show and their respective evolving roles, but forget who is running the show and the purpose of that show. We are all part of the show as well at some point. Some episodes of the show are missing. Initial pages are muted. There are no living characters, but just description of details of the environment in the scene. One by one, characters start appearing. To get to know these other characters and their physical attributes does not make us the Producer and Director of that show.

Some of the evolutionary biologists who do not believe in any God review the previous episodes of the show by literally reading the plot line by line, but miss some important scenes that define the whole plot. They also miss the point that the writer does not start any story by introducing himself explicitly. He only introduces his characters and then makes them play out their roles. What these scientists are quoting from the plot is not necessarily wrong. Perhaps they are quoting exactly the pages of the plot they like and read again and again. But, why the show is happening in the first place? Who is running it? What is the role of human characters in this show? We can only learn from the Producer and Director of the show. He has spoken to us through some of his characters as messengers. The important details of such correspondence are all available inside the plot through the lives and documented dialogues of those messengers. But, the eyes of some people just focus on what they want to see. They have the remote to go to where they can find sensible answers to the entire plot. But, they do not want to see those details. They like the scenes where everyone plays their role in predictable ways day after day. It allows them to make predictions about future episodes. They forget those are just selected scenes of the plot, but not the entire plot. But, their refusal to pay attention to the whole plot would not change the plot. Eventually when the show is over, the ending would not be what they want or what any of the characters in the show want, but what the Producer and Director of that show wants.

Human characters in the show are given more leverage by the Producer and Director to play out their roles in the way they want. Some humans miscalculate this freedom, its limits and their own

potential. They use the delegated authority to forget, disregard, downplay, undermine and even get rid of the Producer and Director. Some other non-living and apparently weaker and smaller characters are sometimes used by the Director to remind humans to be humble, have humility and paint their legacy among the good characters in the show. It is up to humans to paint their destiny. If they follow the Director's guidelines, they can be signed for an even greater show which will begin for never ending again and which will give righteous people with virtuous behaviour the chance to play out their roles without any grief, sorrow and limits.

Sometimes, question is raised that what is the purpose of the universe and other species. Why there was a wait for billions of years before humans began to exist in the universe. What is the purpose of millions of other life-forms in animals and plants? Why there is no life on other planets?

First of all, time is a relative concept. Thus, human's conception of time on planet earth is just how we experience movement of earth around sun and about its own axis. Venus and Mercury take longer time to fully rotate about their axis than to complete their orbits around sun. This means Venus and Mercury have days that last longer than their years, i.e. orbiting around sun is faster which determines years and rotation around their axis is slower which determines days.

Second, other life-forms exist and have consciousness. Their lives give us a lot of food for nutrition and food for thought. We get food for our physical needs from plants, trees and farm animals. We are able to use some animals for our safety and travel. Even the microorganisms are important in decomposing waste and are a source of medicines and vaccines. In a way, these life-forms support our sustenance. Humans as consumers depend on nature for their sustenance more so than the plants which produce their own food and supply nutrients for other animals including humans.

We also get food for thought if we look at these life-forms. Reflecting on animals, we can see that they have limitations. They live on instincts and do not have ability to look into distant past and far future. They operate on survival instincts. Should humans be like

that and only pay attention to survival and animal instincts? We know from our own introspection that we have a clear and strong moral conscience and free will to choose goodness and evil in our choices. Not only do we have that power of recognition, but a strong urge to see goodness, fairness and justice prevail in society. We never like to be cheated and be dealt unfairly. Even those who act in bad ways, they also recognize the evil acts as bad. Belief in afterlife accountability as included in monotheistic faith solves the puzzle by giving deterministic results for choices done with free will. It completes the cause and effect relation in moral matters. Steven Weinberg once remarked that looking at cosmos; one gets the impression that it is pointless[59]. However, religious worldview makes life of every human being meaningful and purposive with promise of deterministic justice in the life to come.

On the other hand, matter without any apparent life, i.e. abiotic matter, also supports our sustenance. Without Jupiter and Saturn orbiting out past Earth, life may not have been able to gain a foothold on our planet. The two gas giants likely helped stabilize the solar system, protecting Earth and the other interior, rocky planets from frequent run-ins with big, fast-moving objects[60]. Sun and moon give us light and their pre-determined movements make our days and night liveable in terms of length and temperature. Due to the Sun and Moon's gravitational pull, we have tides. Seas and rivers give us food and water. Likewise, forests, life in forests, mountains and bio-diversity together provide the ecological balance which helps in sustaining life.

As humans, when we look into our inner self, we find that we also have survival instincts like animals. But, we also have conscience to differentiate right from wrong. Our brains have memories, emotions and intellect to go beyond physical reality and find answers. Our aesthetic sense likes beauty, art, culture and nature. We also have the ability to use matter for our convenience in making objects bigger and powerful than us so as to make us transcend our physical limits. Science has facilitated us to use matter in useful ways. However, as stated before, we also have conscience. We have inherent morals and values. Religion speaks to our soul and asks us to purify our inner soul as well as ensure that our physical self is also

pure, clean and peaceful while engaging with our outer environment where we meet people and nature.

A human child requires nourishment and care to sustain itself. This experience of being dependent for our survival needs gives us a chance to not forget our fallibility and weaknesses despite our strengths and superior ability in youth. Sometimes, a virus creates havoc in our routine life. It makes us understand that despite having consciousness, superior intellect and accumulated knowledge passed over from generations to generations, we are still fallible and vulnerable. We are not God nor can we be. Pandemics and natural calamities invite us to ponder that if life is going to end from one reason or the other, then what is the purpose and meaning of life. If we have been created by the Ultimate Creator, then what is the purpose defined for our lives. The purpose of life defined by religion is not constraining when we look at life in far future. We have this ability to reflect on the far future. Good morals and virtuous lives using our free will can enable us to achieve what we want to achieve in this world without success, i.e. everlasting life, peace of mind, no regrets of past, no vulnerabilities and no constraints of nature. It is up to us whether we look into the far future for which we have the ability or succumb to our survival instincts and perish as another life-form.

The aversion to science emanates from misplacing the scope of both religion and science in society. The disservice to promoting science comes from scientists who mix their personal views with science. One well known Physics Professor in Pakistan wrote: *"If Muslim societies are to develop technology instead of just using it, the ruthlessly competitive global marketplace will insist on not only high skill levels but also intense social work habits. The latter are not easily reconcilable with religious demands made on a fully observant Muslim's time, energy, and mental concentration: The faithful must participate in five daily congregational prayers, endure a month of fasting that taxes the body, recite daily from the Qur'an, and more.*[61]*"*

Neil Turok, director of the Perimeter Institute for Theoretical Physics in Waterloo recently remarked "*All of the theoretical work that's been done since the 1970s has not produced a single*

successful prediction". Several major and significant discoveries in science occurred in the 19th and 20th century through the works of scientists who believed in God. Even in just the last 500 years of modern scientific enterprise, a great many scientists were religious including names like Isaac Newton, Nicholas Copernicus, Johannes Kepler, Robert Boyle, William Thomson Kelvin, Michael Faraday, James Clerk Maxwell, Louis Pasteur and Nobel Laureate scientists like:

1. Max Planck
2. Guglielmo Marconi
3. Robert A. Milikan
4. Erwin Schrodinger
5. Arthur Compton
6. Isidor Isaac Rabi
7. Max Born
8. Dererk Barton
9. Nevill F. Mott
10. Charles H. Townes
11. Christian B. Anfinsen
12. John Eccles
13. Ernst B. Chain
14. Antony Hewish
15. Daniel Nathans
16. Abdus Salam
17. Joseph Murray
18. Joseph H. Taylor
19. William D. Phillips
20. Walter Kohn
21. Ahmed Zewail
22. Aziz Sancar
23. Gerhard Etrl

Thus, it is important for the torchbearers of science to know their scope and highlight what they can offer to society in terms of curing diseases, improving food production and easing transport and communication systems, for instance. To mock faith and faithful, the scientists who do not believe in God do not just hurt the faithful people who are non-scientists, but a great many of their own colleagues who are scientists, but not atheists.

2.2. Scientism and Its Implications

As physics became prominent in all natural sciences, economics claimed that stature in social sciences. Economics came to be regarded as mother of all social sciences. Physicists thought that after roaming through observable universe in space as well as predict its nature over a period of time from big bang to far future; they could also predict economic behaviour of humans and market outcomes. After all, they landed on moon and reached the surface

of Mars. They predicted black holes and gravitational waves and then captured their existence through irrefutable evidence like images and sound. They discovered physical laws which are not just locally applicable on earth, but outside of earth as well.

Astrophysicist Prof. Michio Kaku wrote in his New York Times Op-Ed: "*We are headed toward 'perfect capitalism,' when the laws of supply and demand become exact, because everyone knows everything about a product, service or customer. We will know precisely where the supply curve meets the demand curve, which will make the marketplace vastly more efficient.*[62]"

Those scientists who believe in Scientism and hold that the experimental method is the only arbiter in all matters of life need to look no further than the field of economics where the tools and concepts of physics are applied. Even though science cannot be arbiter in morals, defining motives, public policy and politics, but it cannot even be a perfect and sufficient tool in explaining economic behaviour by taking the analogy of animal behaviour which is based on self-interest and survival instincts.

Mathematics and physics concepts were readily used in economics since the last half century. Some of the concepts of physics that are also applied in economics include equilibrium, efficiency, steady state, input, output, open system, closed system, dynamic system, static system, friction, velocity, speed, acceleration, momentum, inflation, inertia, gravity, leverage, randomness, expansion, signals, collusion, elasticity, waves, drift, buoyancy, bending, cycle, drag and parity, to name just a few.

Mathematical tools like differential calculus, integral calculus, linear algebra, real analysis, spectral analysis, chaos theory, liner programming, classical statistics, Bayesian statistics, stochastic processes, Fourier analysis, fuzzy logic and neural networks are increasingly applied to predict human behaviour in markets. This application is based on the presumption that the tools used to predict the behaviour of atomic particles in a system and cell in an organism are also suitable in explaining conscious human choices.

Let us glance over the rate of success by not going too far in time. Not only majority of the economists could not predict the Great Financial Crisis of 2007-09 from their models, but had also failed to even entertain the idea as to how it can happen since their models assumed apriori that markets are efficient and always clear. Nobel Laureate economist Paul Krugman writes:

> **"Few economists saw our current crisis coming, but this predictive failure was the least of the field's problems. More important was the profession's blindness to the very possibility of catastrophic failures in a market economy. During the golden years, financial economists came to believe that markets were inherently stable — indeed, that stocks and other assets were always priced just right. There was nothing in the prevailing models suggesting the possibility of the kind of collapse that happened last year.[63]"**

Alan Greenspan, the long-time Central Bank Chairman of Federal Reserve Bank in USA was looked upon and regarded as Albert Einstein of economics having erudite knowledge and control over the pulse of the economy. He admitted that he was shocked and did not understand what has happened and how it can be dealt with in his initial public remarks.

Dynamic Stochastic General Equilibrium in use by the policymakers at the onset of Great Financial Crisis of 2007-09 brought dynamism over static models, general equilibrium over partial equilibrium and stochasticity or randomness over non-randomness and certainty. They were supposedly micro-founded and hence economists of all major schools had a broad consensus that they are reliable. The Great Financial Crisis of 2007-09 changed all that. Nobel Laureate, Robert Solow remarked:

> **"Economic theory is always and inevitably too simple; that cannot be helped. But it is all the more important to keep pointing out foolishness wherever it appears. Especially when it comes to matters as important as macroeconomics, a mainstream economist like me insists that every proposition must pass the smell test: does this really make**

sense? I do not think that the currently popular DSGE models pass the smell test. They take it for granted that the whole economy can be thought about as if it were a single, consistent person or dynasty carrying out a rationally designed, long-term plan, occasionally disturbed by unexpected shocks, but adapting to them in a rational, consistent way. I do not think that this picture passes the smell test. The protagonists of this idea make a claim to respectability by asserting that it is founded on what we know about microeconomic behaviour, but I think that this claim is generally phony. The advocates no doubt believe what they say, but they seem to have stopped sniffing or to have lost their sense of smell altogether.[64]"

The micro-foundations in the aggregated models also take a uniform and singular view of economic behaviour, i.e. people engage in self-interested behaviour as utility-maximizing machines. Nobel Laureate Amartya Sen explaining the shortcomings in neoclassical economics approach to understand human behaviour comments as follows:

"A person is given one preference ordering, and as and when the need arises this is supposed to reflect his interests, represent his welfare, summarize his idea of what should be done, and describe his actual choices and behaviour. Can one preference ordering do all these things? A person thus described may be "rational" in the limited sense of revealing no inconsistencies in his choice behaviour, but if he has no use for these distinctions between quite different concepts, he must be a bit of a fool.[65]"

Disregarding history, political economy, culture, institutions, heterogeneity, multiple motives and presence of non-economic impulses in human behaviour has resulted in lack of explanatory power in models. Most explanations that come from the models comprise commonplace knowledge that is well known in advance by people outside of the field of economics. Policymaking sets aside abstract models and then try ad hoc adjustments to appease public and manage political economy. Prof. Gregory Mankiw aspired to see

economists working as dentists as envisioned by John Maynard Keynes. But, this aspiration is not achieved even after almost a century. In fact, mathematical abstraction to understand human behaviour like lifeless subatomic particles or celestial bodies that behave uniformly has led to failure in explaining human behaviour ex-post (after the event), let alone predicting it ex-ante (before the event).

A decade after the Great Economic Recession of 2007-09, the 2018 Nobel Laureate in Economics Paul Romer summarised his abstract of the paper "Trouble with Macroeconomics" as follows:

"For more than three decades, macroeconomics has gone backwards. The treatment of identification now is no more credible than in the early 1970s but escapes challenge because it is so much more opaque. Macroeconomic theorists dismiss mere facts by feigning an obtuse ignorance about such simple assertions as "tight monetary policy can cause a recession." Their models attribute fluctuations in aggregate variables to imaginary causal forces that are not influenced by the action that any person takes. A parallel with string theory from physics hints at a general failure mode of science that is triggered when respect for highly regarded leaders evolves into a deference to authority that displaces objective fact from its position as the ultimate determinant of scientific truth.[66]"

Thus, it is now increasingly realized that understanding cultures, institutions, human psychology and doing differential diagnosis in every given problematic situation is important rather than relying on abstract model results which ignore important factors due to their lack of malleability with mathematical norms. Such models which skip important details just because these details constrain the use of mathematics are bound to give less reliable results. Most of the incomplete mathematical economics models and their estimation using mathematical and statistical tools using proxy data which does not have universal definition is an example of misapplication of scientific method and scientific tools in domains where they do not fit and suffice alone.

2.3. Science and Pro-Social Behaviour

We are experiencing one of the most significant pandemics in recent history. Corona Virus can transmit from one person to another person. To avoid exponential growth in the spread of Corona Virus cases, social distancing is suggested. Father of Monetarist School of Economics, Milton Friedman said that one thing which a person can always be sure of is that everyone would put his or her self-interest before others. Apparently, it is realized by governments that this is perhaps not the right thing to expect and put faith in at the moment. Private choices in pursuit of self-interest and invisible hand were deemed to be less reliable in current situation. Lockdown was considered necessary by governments in everyone's individual and collective interest. Things do not work out randomly. They have to be worked out.

It was decided that everyone cannot be allowed to pursue self-interest and that intervention is necessary. After the lockdown, when markets become less active, the subject of mainstream economics faces another tough ground. There are millions of poor people who do not have work. When lockdown happens, a great many people find resource markets stalled where they used to get income.

More than ever, such crises necessitate the flow of resources from the haves to the have-nots. But, frozen goods and resource markets cannot help much, especially the poor and vulnerable people. That is where, pro-social behaviour and beyond-market distribution of resources is necessary.

However, mainstream economics treats altruism as 'impure'. It looks at altruism in the paradigm of pursuing self-interest. Economists like Andreoni reason that altruism can be explained through the 'warm glow' effect[67]. People feel good to help others as they gain personal and private comfort. They might engage in altruism as a social insurance policy to avoid social unrest. They might be doing it because of social pressure, to gain fame, to

improve social image, to exhibit status or to avoid the guilt of saying no to a cause in public. The paradigm of self-interest is neutral between a person's decision to help others or to not help others. If fear and uncertainty make people more short-sighted, self-centric and engage in hoarding cash, withdrawing from banks, disinvesting their savings in capital markets and buying essential goods in bulk, then there is no drive, urge or impetus that economics can offer to suggest otherwise. It is neutral between these choices and the choice for altruism.

On the other hand, as per physics, we were stardust before and stardust after extinction. As per evolutionary biology, we are one of the millions and millions of species that have earned the right to survive under the sun for a brief period until genetic mutations bury our specie as well. We were born through a fierce and destructive competition and survive until we manage to withstand that competition. While waiting and acting on morals, we should not be here in the first place.

Motivation for moral behaviour and pro-social cooperative response has to come from somewhere else. In poor countries like Pakistan, people with surplus resources are engaging in charity, donations, and volunteering. Empirical evidence in Pakistan in multiple research studies has found that faith is the biggest motivation behind charitable donations and it encapsulates and is associated with other humane motives[68]. This trend is also seen in other parts of the world. But, economics is largely silent and irrelevant when it comes to exchange, allocation and distribution of economic resources outside of markets.

Self-centrism creates another problem on the response side. The problem with commercially motivated technological change is that if it does not make good business, the idea does not see its growth. Sanitation and clean water is still a problem in localities where everyone has 4G connection and mobile wallet accounts. Commercially motivated research is more intensely pursued than socially urgent ones. Technological improvements to ease sanitation, bring clean water and achieve recycling are given less

attention than telecommunication and digital financial services which are commercially more profitable ventures.

Education geared to industry demands has also got into the trap of producing commercial technologists for corporations. These corporations are not built for social responsibility in free-market capitalism. Milton Friedman said the biggest and only responsibility of a corporation is to increase shareholders' wealth. If these corporations do research and find a vaccine eventually that costs $1,000, then those who are not able to afford it would be regarded by mainstream economists as having less willingness to pay. For the poor, it is not a choice, but a helpless situation. But, poor having less budget for essential needs is a problem that we do not start our economics textbooks with.

In the earlier era, the subject of economics was geared to human needs. Now, the prime emphasis is on market behaviour and market outcomes based on choices under uncertainty and scarcity. The emphasis on choice behaviour subtly and inadvertently makes economics and most of its contents largely irrelevant for poor people.

In basic microeconomics textbooks, even when welfare gets attention, it is in the domain of efficient outcomes. Redistribution through taxes is first introduced as a big 'no go' domain with concepts of deadweight loss.

However, inefficiency out of market behaviour and market outcomes is plainly ignored and overlooked. Approximately, $600 million daily is needed to feed every extremely poor person, yet about $2.75 billion value of food is wasted every day, according to Food and Agriculture Organization[69]. Consequently, 9 million people die every year from hunger[70] while one-third of all food is wasted[71]. This gross inefficiency in economic resources is not captured or discussed. According to Food and Agriculture Organization of the United Nations, globally, per capita food supply increased from about 2,200 kcal per day in the early 1960s to more than 2,903 kcal per day by 2014[72]. But under capitalism, the market allocates goods including even food to only those who can pay its price. It does not

make a difference whether the willingness to pay is less than the price due to 'preference' or due to 'poverty'. Yet, mainstream economics claims consumer sovereignty.

When welfare is discussed in microeconomics textbooks, it is only in the domain of economic exchange in markets. The discussion in such places sets total welfare maximization as the virtuous end or criterion. In first-degree price discrimination adopted by a monopolist, there is no welfare loss. However, there is no consumer surplus either despite having optimal efficiency. Economics is neutral between desirable or undesirable equilibrium from the point of view of equity.

Mankiw's famous quote was *'People react to incentives, all else is just explanation'*[73]. However, poor people are helpless. They do not have or face a willingness to pay choice in helpless scenarios. A literal application of definition of demand would imply that the poor people do not have demand for the essential goods. Their wants are not backed up by purchasing power. Economics does not differentiate between essential and non-essential wants. If a rich person demands golf course in a locality near a big population of homeless people, then, the golf course will be built first if he can afford it. Are poor willing to give fewer dollar votes by choice to buy the essential needs? Is it their conscious and sovereign decision?

Nonetheless, we do see people, institutions, and governments trying to help the poor and vulnerable people. However, any policy decision to achieve equity, fairness, social good, and public welfare is largely 'ad hoc' and does not emanate from the more emphasized terminologies of Pareto efficiency, consumer sovereignty and invisible hand that we teach at length and treat as sacred virtues in economics textbooks.

The impetus for pro-social behaviour in human beings can be increased if the right values are inculcated and adopted. Concept of the oneness of Creator dismantles any basis of anthropogenic (human-centric) superiority among all creations, whether it is animated living species of animals and humans or the inanimate non-living objects in the environment.

Explaining consciousness and conscience does not come in the domain of science. Like animals, humans also have consciousness, but they also have a conscience which gives them the ability to differentiate right from wrong actions. But, why we should adopt right and not wrong actions. Prof. Richard Dawkins said that it is necessary for survival. But, Prof. Dawkins needs to be asked that haven't we evolved through mutations in the game of survival of the fittest. Rawls said ignorance of the veil shall be a guide to behave in a way so as not to be on the wrong side of someone's prior irresponsible or unjust action. But, living in any age, we exist and we do not come back again. In the lottery of who comes first in the world, we have already won and are here. Then, what can motivate preferences to act rightly and avoid wrong actions permanently and as a well-grounded behaviour, norm, and habit? The biggest motivation to act on the call to conscience is when there are deterministic rewards. The concept of deterministic rewards in life hereafter on the criterion of sincerity in virtuous and upright conduct in life by each person according to one's ability and by each person according to personal circumstances makes every living moment in this life meaningful.

2.4: Is Contribution to Science Only a Western Enterprise

Ehsan Masood in his book 'Science and Islam: A History' writes that Muslim contribution to science is largely forgotten or at least neglected, except by a few diligent specialists[74]. Science is universal and is not just a Western enterprise. If we are to ignore all science produced by religious people, then we would have hardly anything completely unique and new to say. Muslim scientists pioneered many works in science, followed by people of contemporary times who were also not averse to religion.

Quite a significant number of Nobel Prize-winning scientists in the last century alone believed in religion and God and have also done pioneer work in modern branches of science. Despite the spread of misinformation about religion, a survey conducted by the Pew Research Centre in 2009 found that just over half of the scientists (51%) believe in some form of deity or higher power[75].

As a matter of fact, Islam does not negate critical inquiry. Muslim scholars who understand this viewpoint are supportive of stem cell research, genetic engineering and robotics within ethical bounds. Even traditional Muslim scholarship in early-twentieth century was not skeptical of evolution as a scientific explanation, which can be seen in the writings of Syed Qutb[76] and Maulana Syed Abul-Ala Maududi[77]. Several Muslim scientists conduct research in evolutionary biology and also teach it including Mohammed Alassiri of King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Ehab Abouheif, Canada Research Chair at McGill University; Fatimah Jackson, Professor of Biological Anthropology at the University of North Carolina and Rana Dajani, Associate Professor at Hashemite University, Jordan.

In history, we find that Muslim scientists were the first to break free from the axiomatic approach and introduced an observational approach to science. The paradigm shift with an observational approach which brought impetus to science has origins in early Muslim scientific work rather than in post-renaissance. Robert Briffault, in his book 'The Making of Humanity', contends that the very existence of science, as it is understood in the modern sense, is rooted in the scientific thought and knowledge that emerged from Muslim Middle East. He also writes: *"What we call sciences arose in Europe as a result of a new spirit of inquiry; of new methods of investigation, of the method of experiment, observation, measurement, of the development of Mathematics in a form unknown to the Greeks. That spirit and those methods were introduced into the European world by the Arabs."*[78]

Muslims took the Greek works, updated them and translated them for wider use in both the East and the West. In 763, The House of Wisdom was founded in Baghdad. For every translated book, the state used to pay a quantity of gold equal to the weight of the book so as to provide state patronage and incentives. Two Muslim women, Fatima and Miriam al-Firhi, created the world's first university, Al-Qarawiyyin in Fez, Morocco, in 859 AD. The Al-Azhar mosque library contained 200,000 volumes. In addition to that, there were hundreds of such libraries spread in the Muslim world. The first

medical center was the Ahmad ibn Tulun Hospital, founded in 872 in Cairo. This hospital provided free medical assistance to anyone who needed it without any religious, ethnic or other differences.

In those times, Muslims as well as people from around the globe with diverse religious backgrounds could carry out research under the patronage of Muslim civilization. Donald Campbell writes:

> **"In Europe, the unsettled conditions led to the discouragement of scholarship, while the Caliphs of Baghdad, on the other hand, afforded protection and encouragement to the scholars of all religions.[79]"**

Francis Ghiles in his essay writes: *"At its peak about one thousand years ago, the Muslim world made a remarkable contribution to science, notably mathematics and medicine. Baghdad in its heyday and southern Spain built universities to which thousands flocked. Rulers surrounded themselves with scientists and artists.[80]"*

In astronomy, Muslim scientists did pioneer work which connects them with the modern scientific age, both in terms of the substance of their research and most importantly because of their commitment to evidence-based scientific inquiry. Omar Khayyam and also Al Battani determined the length of the solar year with only a minute error and they did not even have the modern equipment to work with. These scientists used an astrolabe, a sophisticated version of which was built by the Muslim mathematician, Ibrahim Al-Fazari.

Discoveries by Western historians of science in the second half of the twentieth century show that there are surprisingly strong connections between Copernicus (sixteenth century) and Muslim astronomers from the thirteenth and fourteenth centuries, such as Nasir al-Din al-Tusi and Ibn al-Shatir[81] [82]. Copernicus benefited from the observations and geometric models of Al Battani, Al-Tusi and Ibn Al-Shatir for his monumental breakthroughs. The criticism of Ptolemy's models appeared in the works of Muslim scientists. Copernicus built upon that critical work.

Al-Battani raised trigonometry to higher levels and computed the first table of cotangents. Al-Biruni laid the foundation for modern trigonometry. Al-Biruni discussed the theory of the earth rotating about its own axis. He determined the earth's circumference without modern telescopes.

UNESCO declared 2015 as the International Year of Light to celebrate amongst others Ibn Al-Haytham's achievements in optics, mathematics and astronomy. He provided scores of experiments to verify his scientific work as well as performed the foundational work in building a modern camera. In essence, he promoted an experimental and evidence-based approach to study the physical realities. Will Durant in his book 'The Story of Civilization' writes: "*Muslim scholars introduced precise observation, controlled experiment and careful records.*[83]"

In describing the right attitude to science, Ibn Al-Haytham wrote:

> ***"The duty of the man, who investigates the writings of scientists, if learning the truth is his goal, is to make himself an enemy of all that he reads, and, applying his mind to the core and margins of its content and attack it from every side. He should also suspect himself as he performs his critical examination of it, so that he may avoid falling into either prejudice or leniency.[84]"***

Even Imam Ghazali himself was not against science per se, but only on bringing science in matters of faith. Imam Ghazali said: *"Whosoever thinks that to engage in a disputation for refuting such a theory is a religious duty harms religion and weakens it. For these matters rest on demonstrations, geometrical and arithmetical, that leaves no room for doubt.*[85]"

Imam Ghazali is also quoted to have stated:

> ***"Great indeed is the crime against religion committed by anyone who supposes that Islam is to be championed by the denial of these mathematical sciences. For the revealed Law nowhere undertakes to deny or affirm these***

sciences, and the latter nowhere address themselves to religious matters.[86]"

Thus, the spirit of objective inquiry in understanding physical realities was very much there in the works of Muslim scientists. The seminal work on Algebra comes from Al-Khwarizmī and Fibonacci (Leonardo of Pisa) has quoted him. Al-Khwarizmī, the pioneer of Algebra, wrote that given an equation, collecting the unknowns on one side of the equation is called 'al-Jabr'. The word Algebra comes from that. He developed sine, cosine and trigonometric tables, which were later translated in the West. He developed algorithms, which are the building blocks of modern computers. In mathematics, several Muslim scientists like Al-Battani, Al-Beruni and Abul-Wafa contributed to trigonometry. Furthermore, Omar Khayyam worked on Binomial Theorem. He found geometric solutions to all 13 forms of cubic equations.

In biology and medicine, there were several noteworthy contributions by Arabs. Al-Razi wrote the first book on smallpox, called, '*Al-Judri wa al-Hasba'*. Ibn-e-Sina's Canon of Medicine was used as a standard medical text in even as late as the 17th century in Europe. Al-Zahravi was one of the pioneer surgeons and he developed various surgical instruments and methods, which were state of the art at that time and some are still used today. He is also reported to have performed the first cesarean operation. Ibn al-Nafis described the pulmonary circulation of the blood quite a few centuries before William Harvey.

In chemistry, Muslim scientists carried out perfume distillation, glass making, minting of coins and grouping chemicals based on chemical characteristics, which later on led to the modern periodic tables. In 780, Jabir ibn Hayyan, a Muslim chemist who is considered by many to be the father of chemistry, introduced the experimental scientific method for chemistry, as well as laboratory apparatus such as the alembic, still and retort, and chemical processes such as sublimation, distillation, liquefaction, crystallisation, and filtration. Ibn Hayyan also identified many substances including sulphuric and nitric acids. Al-Jazari developed mechanical devices like watermills

and water wheels to ease water management.

Even in social sciences, Muslims were modern and advanced compared to their age. The birth of capitalism as per Max Weber in "The Protestant Ethic and the Spirit of Capitalism" began in Western Europe and spread to North America[87]. Benedict Koehler in his recent book "Early Islam and the Birth of Capitalism" argues that it is Muslim civilization that provided the organizational and ideological elements that combined and gave rise to some positive features of Capitalism.[88]

The author explains that Prophet Muhammad (pbuh) was Himself an established entrepreneur. The author further emphasizes that Mecca was not only a Holy place, but also a very significant trading centre at that time. The author contends that Islamic teachings provided extensive guidelines on fair trade. Islamic teachings also gave due importance to writing business contracts and honouring them, both as a religious and civic duty.

Islamic venture capitalism based on *Mudarabah* and *Musharakah* was conducive to long distance trade and to match the skills and endowments of labour and capitalists respectively. The currency system based on commodities like gold and silver was also advanced enough at that time to avoid the problems of barter trade, such as indivisibility of tradable commodities and having to match double coincidence of wants. Benedikt Koehler writes:

> **"In Baghdad, by the early tenth century, a full-fledged banking sector had come into being: exchanging gold and silver coins and lending money to the government and to merchants who were able to pay money into accounts in one city and draw money in another. These drafts had several names - one of them was the Persian word 'cak' that has come down to us as a *check*."**

The right to private property for men as well as women has also been duly recognized in Islamic law since fourteen centuries ago. Islamic institutions and business practices were later on adopted in Venice and Genoa. There were other Islamic institutions assimilated

in Europe like Charities, *Waqf* and institutions of higher learning, like the *Madrasah*. The author argues that these higher learning institutions were models for the oldest colleges of Oxford and Cambridge.

Among the Muslim contributions to social sciences, Imam Ghazali and Ibn-e-Khuldun discussed the concept of the labour theory of value and division of labour in economics several centuries earlier than Adam Smith and David Ricardo. The famous Laffer curve in economics was first discovered by Ibn-e-Khuldun.

In ancient history, people regarded rivers, springs, and the sea as gods and worthy of worship. They held them to be objects of reverence rather than of conquest. Imbued with the philosophy of monotheism, Muslims saw these phenomena of nature as God's creations. Belief in monotheism freed inquiry and made it possible to use material things in beneficial ways rather than regard them as objects of worship.

Muslims did not force Galileo to let go of his discovery. In fact, most scientific discoveries found their way into Muslim areas without much opposition. When Mongols made Tigris River black with the ink of thousands of books in the siege of Baghdad, it was not Islam holding back science. Even after the Islamic Golden Age, the majority of scientists who did the ground-breaking work in major fields of modern science were religious. Doing science does not require faith. However, it would be a strange idea that one cannot believe in religion while simultaneously contributing to science.

Lastly, Islam and science are not at odds as commonly perceived. According to World Values Survey Sixth Wave results for 2010-2014, 32.73% Muslim respondents completely agreed that science and technology are making our lives healthier, easier, and more comfortable as compared to 24.89% others citing the same opinion. The opinion was asked from respondents on a 10-point rating scale where 1 represented completely disagreed and 10 represented completely agreed. It is interesting to note that 80.13% of Muslim respondents chose response between 6 and 10 on the scale as compared to 78.25% others choosing a similar response.

Chapter 3

Spiritual View on Existence

3.1: Basic Premise of Faith

Consistency of curiosity urges us to now spend brief moments to read what Allah has himself said about existential questions in His last direct message on earth. The message invites thinking, reflection, introspection and summarizes the monotheistic worldview.

i) - Reflection on Nature, Ecology, Design, Complexity & Meaning

"In the creation of the heavens and the earth; in the alternation of night and day; in the ships that sail the ocean bearing cargoes beneficial to man; in the water which God sends down from the sky and with which He revives the earth after its death, scattering over it all kinds of animals; in the courses of the winds, and in the clouds pressed into service between earth and sky, there are indeed signs for people who use their reason." (Al-Baqarah: 164)

"It is He who made the sun radiate a brilliant light and the moon shed its lustre, and ordained for it stages so that you may learn to count out the years and [to make other such] reckoning of time. God has not created all these without a purpose. He makes plain His revelations to men of understanding. In the alternation of night and day, and in all that God has created in the heavens and the earth, there are signs for a God-fearing people. (Younus: 5-6)

"It is God who enables you to travel on land and sea. And when you are sailing on ships and rejoicing in the favourable wind, a storm arrives, and the waves surge upon those on board from every side and they think they are encompassed, then they make a fervent

appeal to God, saying in all sincerity, 'If You deliver us from this, we will surely be of the thankful.' But when He has delivered them, they begin, wrongfully to commit excesses in the land. O you men, your excesses only affect your own selves. Have the enjoyment of the present life. Then to Us you shall return; and We will inform you of all that you have done. The life of the world is like the water which We send down from the sky, and which is absorbed by the plants of the earth, from which men and cattle eat. But when the earth has taken on its finest appearance, and looks beautiful, and its people think they have it under their control, then by day or by night, Our command comes to it and We convert it into a field of stubble, as if nothing had existed there the day before. Thus, We make plain Our revelations for those who reflect." (Younus: 22-24)

"It is He who has made the night dark for you so that you may rest in it, and the day a source of light. Surely, there are signs in this for a people who listen." (Younus: 67)

"There is not a living creature on the earth but it is for God to provide its sustenance. He knows its dwelling and its [final] resting place…" (Hud: 6)

"On the earth are diverse tracts, adjoining one another: vineyards and cornfields and groves of palm, the single and the clustered. Their fruits are nourished by the same water; yet We make the taste of some excel that of others. In this also are signs for people who understand." (Al-Ra'D: 4)

"It was God who created the heavens and the earth. He sends down water from the sky with which He brings forth fruits for your sustenance; He has made ships subservient to you, so that they may sail across the sea by His command; and has subjected the rivers to you. He has also subjected to you the sun and the moon, both steadfastly pursuing their courses. He has subjected to you the night as well as the day; He has given you all that you asked of Him; and if you try to reckon up God's favours, you will not be able to count them. Truly man is very unjust, very ungrateful." (Ibrahim: 32-34)

“We have spread out the earth, and set upon it firm mountains and caused everything to grow in due proportion. We have provided therein a means of livelihood for you and for all those creatures for whom you do not provide.” (Al-Hijr: 19-20)

“He created the heavens and the earth for a true purpose. He is exalted above anything they associate with Him. He created man out of a [mere] drop of sperm: yet he shows himself to be openly contentious! He has created cattle for you: from them you derive food and clothing and numerous other benefits; how pleasant they look when you bring them home in the evenings and when you take them out to pasture in the mornings. They carry your loads to places which you could otherwise not reach without great hardship—surely, your Lord is compassionate and merciful.” (Al-Nahl: 3-8)

“God sends down water from the sky and with it revives the earth when it is dead. There is truly a sign in this for people who listen. There is also a lesson for you in cattle. From the contents of their bellies, from between the dung and blood, We give you pure milk to drink, pleasant for those who drink it. From the fruit of the date palm and the grapes, you derive intoxicants as well as wholesome food. Surely in this there is a sign for men of understanding. Your Lord inspired the bee, saying, ‘Make your homes in the mountains, in the trees, and also in the structures which men erect. Then feed on every kind of fruit, and follow the trodden paths of your Lord.’ From its belly comes a drink with different colours which provides healing for mankind. Indeed, in this there is a sign for people who give thought.” (Al-Nahl: 65-69)

“Do they not see the birds held poised in the vault of heaven? Nothing holds them up except God. Truly, there are signs in this for those who believe. God has made your houses places of rest for you and made tents for you out of cattle hides, which are light for you to carry, both when you are travelling and when you are staying in one place. He provides for you from the wool and fur and hair of cattle, household goods and articles for use for a time.” (Al-Nahl: 79-80)

“Your Lord is He who causes the ships to move onward for you across the sea, so that you may go in quest of His bounty: He is most merciful towards you. When danger threatens you at sea, you call upon Him, and forget all others you are used to invoke. But when He brings you safe to land, you turn away from Him. Man is ever ungrateful.” (Al-Isra: 66-67)

“It is He who has laid out the earth for you and traced routes in it and sent down water from the sky. We have brought forth every sort of plant with it, so eat and graze your cattle. In this, there are signs for men of understanding. From the earth, We have created you and We will return you to it, and from it We shall bring you forth a second time.” (Taha: 53-55)

“Do not those who deny the truth see that the heavens and the earth were joined together and that We then split them asunder? And that We have made every living thing out of water? Will they still not believe? We set firm mountains upon the earth lest it should sway under them, and We placed therein passages for paths so that they might find their way. We have made the heaven a well secured canopy; yet still they turn away from Our signs. It is He who created the night and the day, and the sun and the moon, each gliding in its orbit.” (Al-Anbiya: 30-33)

“Then, We placed him as a drop of fluid in a safe place, then We developed that drop into a clinging form, and We developed that form into a lump of flesh, and We developed that lump into bones, and clothed the bones with flesh. Then We brought him into being as a new creation—glory be to God, the best of creators—after this you shall surely die. Then you will be raised up again on the Resurrection Day.” (Al-Mu’minun: 13-16)

“We sent down water from the sky in due measure and lodged it in the earth—but if We please, We have the power to take it away—We have produced palm-groves and vineyards for you, in which there are abundant fruits for you; and you eat these, also a tree growing on Mount Sinai which produces oil and a condiment for those who eat it. You have a lesson in livestock. We provide you with drink from what is in their bellies, and you have many other benefits from

them; some of them you eat, and you ride on them as you do in ships." (Al-Mu'minun: 18-22)

"He it is who has multiplied you on the earth and to Him you shall all be gathered: He is the One who gives life and causes death and He controls the alternation of night and day. Will you not then understand?" (Al-Mu'minun: 79-80)

"As for those who deny the truth, their works are like a mirage in a desert. The thirsty traveller thinks it to be water, but when he comes near, he finds it to be nothing. He finds God there, who pays him his account in full. God is swift in His reckoning." (Al-Nur: 39)

"God created every creature from water. Some crawl upon their bellies, others walk on two legs, and others walk on four. God creates what He pleases. He has power over all things." (Al-Nur: 45)

"Surely, whatever is in the heavens and on the earth belongs to God. God knows well what condition you are in. On the Day when they return to Him, He will declare to them all that they have done. God has full knowledge of all things." (Al-Nur: 64)

"It is He who sends the winds as heralds of His mercy and We send down pure water from the sky, so that We may bring life to a dead land; and slake the thirst of Our creation; cattle and men, in great numbers." (Al-Furqan: 48-49)

"Who created the heavens and the earth and sends down water for you from the sky, by which We make luxuriant gardens grow—you could never make such trees grow in them— is it another deity besides God? No indeed, but they are a people who equate others with Him. Who is it that made the earth a stable place to live in? Who made rivers flow through it? Who set mountains upon it and placed a barrier between the two seas? Is there another deity besides God? Indeed, most of them have no knowledge." (Al-Naml: 60-61)

"Do they not see how God originates creation, then reproduces it? That surely is easy for God. Tell them, 'Roam the earth and see how

He originated creation. Then God will bring into being your second life. God has power over all things." (Al-Ankabut: 19-20)

"He brings forth the living from the dead and the dead from the living. He gives life to the earth after its death, and you shall be raised to life in the same way." (Al-Rum: 19)

"The two water reservoirs are not alike. The one is sweet, thirst quenching, and pleasant to drink from, while the other is salty and bitter. Yet from each you eat fresh fish and extract ornaments to wear, and in each you see the ships ploughing through the waves so that you may seek His bounty and so that you may feel thankful." (Fatir: 12)

"Did you not see how God sent down water from the sky with which We bring forth fruit of diverse colours? In the mountains there are streaks of various shades of white and red, and jet-black rocks; in like manner, men, beasts, and cattle have their diverse hues too. Only those of His servants, who possess knowledge, fear God. God is almighty and most forgiving." (Fatir: 27-28)

"It is God who has given you the earth for a resting place and the heavens for a canopy. He shaped you, formed you well, and provided you with good things. Such is God, your Lord, so glory be to Him, the Lord of the Universe. He is the Living One. There is no deity save Him. So pray to Him, making religion pure for Him [only]. Praise be to God, the Lord of the Universe!" (Ghafir: 64-65)

"It is God who provides livestock for you, some for riding and some for your food: you have other benefits in them too. You can reach any destination you wish on them: they carry you by land, as ships carry you on the sea. He shows you His signs; which then of the signs of God will you deny?" (Ghafir: 79-81)

"Among His signs is this: you see the earth dry and barren, but when We send down on it water, it stirs and swells: most surely He who gives it life is the giver of life to the dead; surely He has power over all things." (Fussilat: 39)

“We shall show them Our signs in the universe and within themselves, until it becomes clear to them that this is the Truth. Is it not enough that your Lord is the witness of all things? Yet they still doubt that they will ever meet their Lord. Surely, He encompasses all things.” (Fussilat: 53-54)

“Among His signs are the ships sailing like mountains on the sea. If He willed, He could bring the wind to a standstill and they would lie motionless on the surface of the sea—truly there are signs in this for anyone who is steadfast and grateful—” (Al-Shura: 32-33)

“His is all that the heavens and the earth contain. To God shall all things return.” (A’al-e-Imran: 109)

“The sun cannot overtake the moon, nor can the night outpace the day: each floats in [its own] orbit.” (Yaseen: 40)

“Do they not see that, among the things which Our hands have fashioned, We have created for them cattle of which they are the masters, We have subjected these to them, so that some may be used for riding and some for food? And they have (other) benefits from them, and they get (milk) to drink, will they not then be grateful?” (Yaseen: 71-73)

“Have they not observed the sky above them and marked how We have built it and adorned it, leaving no flaws in it; We spread out the earth and set upon it solid mountains and We brought forth from it all kinds of delightful plants, as a lesson and reminder for every human being who turns to God; and We have sent down from the sky blessed water with which We have brought forth gardens and grain to be harvested, and tall palm-trees with their thickly-clustered dates, as a provision for human beings; and by [all] this We bring dead land to life. Such shall be the Resurrection.” (Qaaf: 6-11)

“Do they not see the birds above them spreading and closing their wings? None save the Merciful sustains them. Surely, He observes all things.” (Al-Mulk: 19)

“From the rain clouds, We send waters pouring down in abundance, so that We may bring forth thereby grain and a variety of plants, and gardens dense with foliage.” (Al-Naba: 14-16)

“Say, ‘It is He who has scattered you on the earth; and it is to Him that you shall all be gathered [on the Day of Resurrection].’” (Al-Mulk: 24)

“… You will not find any flaw in the creation of the Gracious One. Then look once again: can you see any flaw? Then look again and again. Your gaze will come back to you confused and exhausted.” (Al-Mulk: 3-4)

“He causes the break of day, and has made the night for rest and He made the sun and the moon to a precise measure. That is the measure determined by the Almighty and the All Knowing. It is He who has set up for you the stars so that you might be guided by them in the midst of the darkness of land and sea. We have made the signs clear for people who want to understand.” (Ana’am: 96-97)

“It is He who sends down water from the sky. With it We produce vegetation of all kinds; out of green foliage, We produce clustered grain; and from the date-palm, out of its sheath, We produce bunches of dates hanging low. We produce vineyards and olive groves and pomegranates, alike yet different. Look at their fruit as He causes it to grow and ripen. In this are signs for people who believe.” (Ana’am: 99)

“There is not an animal that moves about on the earth, nor a bird that flies on its two wings, but are creatures like you. We have left out nothing in the Book—they shall all be gathered before their Lord.” (Al-Ana’am: 38)

“It is God who sends forth the winds as harbingers of His mercy, and when they have gathered up the heavy clouds, We drive them on to a dead land where We cause rain to fall, bringing out all kinds of fruit, just as We will raise the dead to life. Perhaps you will take heed. Vegetation comes out of good land in abundance by the will

of its Lord, but out of bad land only scantily. Thus We explain Our signs in diverse ways for those who give thanks." (Al-Ara'af: 57-58)

"[O Men!] Are you more difficult to create than the heaven which He has built, by raising its vault high and fashioning it flawlessly, and making its night dark and bringing forth its morning light, and the earth which He spread out, after that bringing forth from it its water and its pasture land, and making the mountains firm: [all this] as a means of sustenance for you and your animals?" (Al-Naziat: 27-33)

"Let man reflect on the food he eats. We let the rain pour down in torrents and then We cleaved the earth asunder. We make the grain grow out of it, and grape vines and vegetables, and olive trees and date palms and burgeoning enclosed gardens and fruits and fodder as provision for you and for your cattle to enjoy." (Abas: 24-32)

"Do they never reflect on the camels and how they were created, and on the sky, how it is raised aloft, and on the mountains, how they are firmly set up, and on the earth, how it is spread out?" (Ghasiya: 17-20)

"Have We not spread the earth spaciously, and raised the mountains like supporting poles? We created you in pairs, and gave you repose in sleep, and the night as a cover, and made the day for earning a livelihood." (Al-Naba: 6-11)

"He has laid out the earth for His creatures. On it are fruits and palm-trees with sheathed clusters [of dates], and grains with their husk and fragrant plants. Which of your Lord's blessings would you deny?" (Al-Rehman: 10-13)

"Were they created out of nothing, or are they their own creators? Did they create the heavens and the earth? No! They have no faith." (Toor: 35-36)

"He has sovereignty over the heavens and the earth. All affairs will return to God. He causes the night to pass into the day and the day

to pass into the night. And He knows all that is in the hearts of men." (Al-Hadid: 5-6)

ii) - God is the One and Has No Partner

"All those you worship instead of Him are mere names you and your forefathers have invented, names for which God has sent down no authority: all power belongs to God alone, and He orders you to worship none but Him: this is the true faith, though most people do not realize it." (Yousuf: 40)

"Have you not heard of him who argued with Ibrahim about his Lord because God had bestowed the kingdom upon him? Ibrahim said, 'My Lord is the one who gives life and brings death.' He answered, 'I [too] give life and bring death!' Ibrahim said, 'God brings up the sun from the east, so bring it up yourself from the west.' …" (Al-Baqarah: 258)

"In this way, We showed Ibrahim Our kingdom of the heavens and the earth, so that he might have certainty of faith. When night descended on him, he saw a star. He said, 'This is my Lord!' Then when it set he said, 'I do not love things that set.' When he saw the moon rise and spread its light, he said, 'This is my Lord.' But when it set, he said, 'If my Lord does not guide me, I will be one of the misguided people.' Then, when he saw the sun shining, he said, 'This is my Lord! This is the greatest of all!' Then when it set, he said, 'My people, I disown all that you worship besides God. I have set my face with singleminded devotion, towards Him who has created the heavens and the earth, and I am not one of the polytheists.'" (Al-Ana'am: 75-79)

"He [Ibrahim] looked up at the stars. And said, 'I am sick,' so they turned their backs on him and went off. He turned to their gods and said, 'Do you not eat? What is the matter with you that you do not speak?' Then he turned on them, striking them down with his right hand. People came rushing towards him, but he said, 'How can you worship things you carve with your own hands, when it is God who has created you and all your handiwork?'" (As-Saffat: 88-96)

“Before this, We gave Ibrahim his guidance. We knew him well. When he asked his father and his people, ‘What are these images to which you are so devoted?’ They replied, ‘We found our fathers worshipping them.’ Ibrahim said, ‘Indeed, you and your fathers have been clearly misguided.’ They said, ‘Have you brought us the truth or are you jesting?’ Ibrahim replied, ‘Your Lord is the Lord of the heavens and the earth, who created them, and I bear witness to that. By the Lord, I will devise a plan against your deities after you have gone away and turned your backs!’ He broke them all into pieces, except for the biggest one of them, so that they might return to it [for enquiry]. ‘Who has done this to our deities? He must be a wrongdoer.’ Some said, ‘We heard a young man, called Ibrahim, talking about them.’ They said, ‘Then bring him here in the sight of all the people, so that they may act as witnesses.’ They said, ‘Ibrahim, was it you who did this to our deities?’ He answered, ‘Rather this biggest one of them did it. Ask them, if they can speak.’ Then they turned to one another and said, ‘It is you yourselves who are in the wrong,’ then they hung their heads, and said, ‘O Ibrahim! You know they cannot speak.’ Ibrahim said, ‘So, do you worship something instead of God that can neither benefit you nor harm you?” (Al-Anbiya: 51-66)

“God is He who created you, then provides for you, then will cause you to die and then bring you back to life. Can any of your ‘partners’ do any one of these things? Glory be to Him and exalted be He above anything they associate with Him!” (Al-Rum: 40)

“People, here is an illustration. So listen carefully. Surely, those whom you invoke other than God cannot create even a fly, even if they were all to combine together to do it, and if a fly should snatch anything away from them, they cannot recover it from it. Both are indeed weak, the seeker and the sought.” (Al-Hajj: 73)

“God has not taken to Himself a son, nor is there any other deity besides Him; otherwise, each god would have walked away with what he had created. They would surely have tried to overcome one another. Glory be to God, above all that they ascribe to Him.” (Al-Mu’minun: 91)

“Those you call on besides God cannot create anything. They are themselves created. They are dead, not living; nor do they know when they will be raised to life. Your God is the One God. As for those who do not believe in the Hereafter, their hearts refuse to admit the truth and they are arrogant. God surely knows what they conceal and what they reveal. He does not love the arrogant.” (Al-Nahl: 20-23)

“Those whom you call on besides God are but creatures like yourselves. Call upon them, then, and let them respond to you, if what you say is true. Have they feet to walk with? Have they hands to hold with? Have they eyes to see with? Have they ears to hear with?...” (Al-Ara’af: 194-195)

“Those whom you call on besides Him have no power to help you, nor can they help themselves.’” (Al-Ara’af: 197)

“Say, ‘Have you thought about those you call upon apart from God? Show me what they have created on the earth. Or do they have a share in the heavens? Bring me a Book revealed before this or some other vestige of knowledge, if you are telling the truth.’ And who is more misguided than one who invokes, besides God, such as will not answer him until the Day of Resurrection, and who [in fact] are not even aware of his call.” (Al-Ahqaf: 4-5)

iii) - Origin of Human Life and its Purpose

“We have created you: why then do you not accept the truth? Have you thought about [the semen] that you discharge— did you create it or did We? It is We who have ordained death for all of you; and We cannot be prevented from replacing you by others like yourselves or changing your forms and re-creating you in forms that you know nothing of. You have certainly known the first creation. Why, then, do you not take heed? Have you thought about what crops you plant? Is it you who cause them to grow or do We? If We so pleased, We could turn your harvest into chaff. Then you would start lamenting, ‘We are ruined, nay, we are deprived [altogether].’ Have you considered the water that you drink? Is it you who cause it to descend from the clouds, or do We? If We so pleased, We certainly

could make it salty. Why, then, are you not grateful?" (Al-Waqiya: 57-70)

"Say, 'He is God, the One, God, the Self-sufficient One. He does not give birth, nor was He born, and there is nothing like Him.'" (Al-Ikhlas: 1-4)

"Blessed is He in whose hand is the Kingdom: He has power over all things; He created death and life so that He might test you, and find out which of you is best in conduct. He is the Mighty, the Most Forgiving One." (Al-Mulk: 1-2)

"Most certainly We will try you until We have discovered those among you who strive their hardest, and those who are steadfast, and will test your record." (Muhammad: 31)

"Every soul shall taste death; We test you with both good and bad [circumstances] as a trial. To Us you shall return." (Al-Anbiya: 35)

"Say, 'We believe in God and what was revealed to us; and what was revealed to Ibrahim, Ismael, Isaac, Jacob, and their descendants, and what was given to Moses and Jesus and what was given to the [other] prophets by their Lord. We make no distinction between any of them. It is to Him that we surrender ourselves.'" (Al-Baqarah: 136)

"And vie with one another for your Lord's forgiveness and for a Paradise as vast as the heavens and the earth, which has been prepared for the God-fearing, for those who spend, both in prosperity and adversity, who restrain their anger and are forgiving towards their fellow men—God loves those who do good works." (A'al-e-Imran: 133-134)

"Do not walk proudly on the earth. You cannot cleave the earth, nor can you rival the mountains in height." (Al-Isra: 37)

"It was not in play that We created the heavens and the earth and all that lies between them." (Al-Anbiya: 16)

“As for those who fear their Lord in the unseen will have forgiveness and a rich reward. Whether you speak in secret or aloud, He knows what is in every heart. How could He who created not know His own creation, when He alone is the Most Subtle in His wisdom and the All Aware? It is He who has made the earth subservient to you, so traverse its regions and eat its provisions. To Him you shall all be resurrected.” (Al-Mulk: 12-15)

“On the Day when every human being will find himself faced with all the good that he has done, and with all the evil that he has done, many will wish that there were a long space of time between himself and that [Day]. God admonishes you to fear Him, but God is compassionate towards His servants.” (A’al-e-Imran: 30)

“Do they not know that God knows all that they conceal and all that they disclose?” (Al-Baqarah: 77)

“Should We treat the true believers and the wrongdoers alike? What ails you? How ill you judge! Have you a Scripture that tells you that you will be granted whatever you choose? Or do you have Our solemn oaths, binding upon Us till the Day of Resurrection, that you shall have whatever you yourselves decide?” (Al-Qalam: 35-39)

“By the sun and its rising brightness and by the moon as it follows it, and by the day as it reveals its glory and by the night when it draws a veil over it, by the sky and how He built it and by the earth and how He spread it, by the soul and how He formed it, then inspired it to understand what was right and wrong for it. He who purifies it will indeed be successful, and he who corrupts it is sure to fail.” (Al-Shams: 1-10)

“Read! In the name of your Lord, who created: created man from a clot [of blood]. Read! Your Lord is the Most Bountiful One who taught by the pen, taught man what he did not know. Yet man behaves arrogantly, because he thinks himself self-sufficient: truly, all will return to your Lord.” (Al-Alaq: 1-8)

"[On the Day of Resurrection], Whoever has done the smallest particle of good will see it; while whoever has done the smallest particle of evil will see it." (Al-Zalzalah: 7-8)

3.2. Meaning of Life in the Faith Based Worldview

Scientists who do not believe in God know that science can neither prove nor disprove God. But, they try to demean the importance of existential questions with casual remarks. Prof. Richard Dawkins once said that God's existence cannot be disproved just like it cannot be disproved that a flying horse exists or fairies live beneath the garden[89].

First of all, it does not come under the domain of science to be an arbiter in such matters. It is the limitation of science, but not of human rationality. Human rationality is not confined to believing only in physically observable realities. Even though Prof. Lawrence Krauss thinks that the ultimate arbiter of truth is experiment, science would come at a standstill when faced with realities that are not physical. Science would not tell us about the motive, will and morals definitively.

It is correct that not all beliefs are true. Some are mere superstitions. A belief can be true or false. If we cannot prove or disprove God from scientific method alone, then we need to evaluate a belief by using other faculties other than physical senses, such as logic and philosophy. If a concept dates back to history, then we ought to evaluate history and archaeology. If the concept is written in a book and millions of people attribute their held views to that book, then one is ought to read and evaluate information in that book. Curiosity demands this continuous probing from a person who is interested in seeking reality, knowledge and truths.

From the perspective of science, take the unprovable proposition that there exist unobservable fairies beneath the garden. When the human rationality would understand that this is an unobservable proposition, it would employ other faculties to probe it further rather than relying on experiments or physical senses.

For instance, ask who believes that fairies exist beneath the gardens. If none, then we do not need to find an answer to an irrelevant hypothetical belief as to whether it is true or false. If someone does believe in unobservable fairies beneath the garden, we need to see what question it answers for him/her and what is the source of this answer? This kind of logical probing will be done to all kinds of beliefs, whether it is existence of unicorn or tea pot orbiting around some distant planet. It should be clear that how probing unobservable claims can be debunked through logic and rationality, whereas science on its own cannot resolve unobservable absurdities definitively.

Now, take the question of God's existence. If a person knows little science, he/she would conclude that this is neither provable nor disprovable through science or scientific method alone. But, one can use logical and rational reasoning to see whether it is a justified true belief.

When we see an orderly thing and reflect on its origin or existence, the questions like who created it, how it was created and why it was created come to mind. Atheists want to replace the question of who with chance for primordial matter and skip the question of why. How something comes about is an important part of reality. It comes under the domain of science to seek answers to that. But, that does not mean that the answer to 'how' alone tells us the complete story and also answers 'Who did it' and 'Why'.

For validation of knowledge about something, seeing something is not necessary. We use inference to know about things we have not seen, but which nevertheless are considered as true by inference. We would infer that someone put book on table if it was lying in cupboard when we last saw it. If we see an infant crying in a stroller in park and is unattended, we would immediately search for the parent or attendant who would have accompanied the infant to this place. Inference can be used to derive valid knowledge about unseen concepts whose physical manifestations can however be observed like gravity, for instance. We know that dark energy and dark matter, detectable only because of their effect on the visible matter

around them, make up most of the universe. We knew black holes exist even before we observed them through a visible image in 2019.

Science has made us truly amazed at how we exist through fine-tuned balance in numerous variables. The natural question is for what purpose? Can aspiration of getting a due reward for right conduct is possible for everyone? Can absolute justice ever be established? Is everlasting happiness achievable? Can the outlaws responsible for genocide be brought to justice ever? Can the honest and truthful people who suffer unjust lives be duly compensated, if ever?

Big bang proved the premise scientifically that the universe began to exist. Everything that begins to exist cannot create itself. It cannot create itself while not in existence. So, it cannot be existing and non-existing at the same time. It has to be created by something that is not 'it'. The creator has to be independent of the universe itself. So, the constraints of this universe do not apply to that Creator since the Ultimate Creator is not part of the universe. It is the author of both the universe and its laws.

The Ultimate Creator has to be uncreated since it is necessary for the universe to be created in the first place. We find cause or creator for something that is created and that begins to exist at some finite point in time like the universe which came into existence 13.7 billion years ago. The Ultimate Creator did not come into existence at some finite point in time. It is ever-existing. This God is not the 'scientific conjecture of god of the gaps' which fits in the novel for pages that are not found in the novel. This God is the author of the whole novel and the programmer of nested loops within loops. He is not the pixel of the painting or a brush or a colour or the painting itself. It is the painter. It is not the laws of physics or theorems of mathematics alone. It is the source of these laws and theorems. Isaac Newton aptly said that gravity explains the motions of the planets, but it cannot explain who sets the planets in motion.

Even many of the scientists who present themselves as atheists or agnostics are comfortable with a non-intervening concept of deity which brought the laws of physics and primordial inputs in existence

in the first place. It is the concept of god espoused by William Paley, Voltaire and Spinoza. Nonetheless, this line of thinking is inconsistent with human curiosity. If we believe that there is a God, then we should seek Him. As a matter of fact, God has communicated to us through His messengers and the last two messengers, Jesus (pbuh) and Muhammad (pbuh) have lived in the daylight of history. Qur'an is the God's words with us which explains the purpose of creation. Instead of assuming God as a watchmaker, mathematician, master equation and a pilot who starts engine but turns the machine to autopilot, it is important for us to be consistent with our curiosity to seek God. We should not avoid it simply because of not willing to have responsibility.

As per monotheistic religions, Allah, the Supreme Being, created all living and non-living things in the universe. This universe had a beginning and this is a fact which is endorsed by physics. This universe cannot be its own creator since it began to exist at some point in time. It cannot create itself into existence while being in existence already at the same time. As part of the cosmos, are we our own creators? James Clarke Maxwell who formulated the classical theory of electromagnetic radiation is quoted to have said: *"Science is incompetent to reason upon the creation of matter itself out of nothing. We have reached the utmost limit of our thinking faculties when we have admitted that because matter cannot be eternal and self-existent, it must have been created.*[90]**"**

Prof. Lawrence Krauss writes: "*The declaration of a First Cause still leaves open the question, 'Who created the creator?' After all, what is the difference between arguing in favour of an eternally existing creator versus an eternally existing universe without one?*[91]**"** Big Bang has proved that this universe had a beginning 13.7 billion years ago. It is not an eternally existing universe. The lifeless matter cannot be conceived as creating itself independently. We use matter and reshape it into different forms to make aeroplanes, rockets, spaceships, skyscrapers and expansive gardens. We, humans, having the power to form and deform matter through construction and destruction can also not be our own creators and this universe. We have barely come to exist since few hundred thousand years ago on this planet. We know and recognize by

experience and observation our physical limits and fallibility. Our behavioural contradictions and fallacies are so much well documented that the busiest field in economics these days is behavioural economics. Herbert Simon writes:

> **"The capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behaviour in the real world -- or even for a reasonable approximation to such objective rationality.[92]"**

The question of who created the Ultimate Creator is not valid since the Ultimate Creator is not a creature and needs not to be created. For someone to be the Ultimate Creator, He has to be someone beyond the constraints of this world and nature. If the premise is that the Ultimate Creator created everything and nothing exists independent of His will, then, the logical conclusion would be that He has to be an independent personality outside of the universe and have no constraints of laws governing this universe.

Emeritus Professor of Mathematics at the University of Oxford, John Lennox succinctly answers this naïve counter question as to who created god. Making a remark on Prof. Dawkin's book 'God Delusion', he said that God Delusion argument is that, if God created everything, we would have to ask who created God. But the very asking of this question reveals at once that Dawkins has in mind a created god: 'Who created God?' Created gods certainly are a delusion[93]. He further says: "*Furthermore, if Dawkins's question is valid, it can be turned back on him. He believes that the universe created him. Therefore, we are justified in asking him: who created your creator?*[94]"

As per the faith of Islam, human beings are created for a test by Allah and we live in His universe under finely tuned life-supporting systems. Our success in this test depends on moral excellence in matters involving free will. The nature of the test examines human actions made with free will. The wish to see absolute justice around us and to achieve everlasting happiness would be possible in

afterlife provided we use our free will in choosing moral actions in this life. Success in this test is possible even for those who suffered injustice throughout their lives. Failure is also possible for the richest, powerful and outlaws who nonetheless might be able to evade law enforcement all their lives in this world.

Some scientists like Prof. Neil Tyson are comfortable with the notion that we are living in an ape farm created by aliens[95], but have a difficult time believing in a Creator who created this universe and us. It is perhaps because the above mentioned faith-based worldview even though is profound and gives everyone meaning in their lives, but it also asks us to shoulder responsibility which we want to avoid and escape from. These analogies reflect thinking and mind set to evade responsibility and they add nothing in terms of answering the questions about the meaning of life.

This world is not fair in all respects. A morally upright man is not necessarily the most honourable man in the world. A morally upright trader is not necessarily the richest in the world. Not all murderers have been or will be convicted in this world. Even if all murderers could have been convicted, it will not be 'naturally' possible to give equitable punishment to the murderers who have killed more than one human being. Furthermore, it will not be possible to reverse the immoral actions and their already occurred consequences.

Religion promises absolute justice and deterministic rewards in the life hereafter. This fulfils the aspiration to have perfect justice to lives spent by pious and impious, poor and rich and just and unjust people. The promise that every action and even intention will be given due justice by the Creator makes the 'static conscience' created by Allah a 'self-regulated functioning conscience.'

Science can inform and identify moral dilemmas by highlighting the consequences of actions and inactions, but it cannot compel us to do the morally right things as influenced by some objective values and morality. Given the opportunity cost of every economic activity, we buy more luxuries despite there being one in nine people going to bed hungry and hundreds of thousands of people dying from

curable diseases which can be prevented for an individual in less than the cost of a hamburger.

Some people suggest that being not religious does not mean that we are or will become immoral. However, faith does not argue that moral values originate solely from scriptures. There is an innate ability in our consciousness to differentiate right from wrong actions. The different approaches to life and its meaning can result in different ways of responding to moral calling. Faith not only compels and elicits pro-social behaviour, but it provides meaningful consequences for good and bad actions. Else, altruism while in poverty, anonymous charitable giving, and sacrificing one's life in the service of humanity would seem irrational if we are just going to die after some moments in the cosmos without any absolute justice. Inaction to not help change matters is also immoral, even if not illegal. If one possesses the means and finds an opportunity to help causes by way of spending wealth, volunteering and engaging in socio-political and democratic struggle, then one should undertake every feasible effort to contribute in social well-being by looking beyond one's self-interest.

Religion gives meaning to actions and moral choices. Else, both mass murderers and honest go through the same biological decay of their skulls after they die. One can decide to do an act morally as an end in itself and not merely as a means to a material end with the knowledge that there are deterministic rewards beyond the interpersonal relations in the world.

If one believes in this life only; then that person will be more selfish to get everything in this life. If we restrict our existence confined to this world alone with no accountability in the afterlife; then, I am "just" as long as I am "just" in front of the society even though there could be crimes that the society could never have seen me doing. Contrarily, I could be regarded as "unjust" by the society if it convicts me based on evidence which could have been untrue. Life hereafter gives meaning to all our actions by promising each and every soul a just reward.

Religion concerns primarily with the moral sphere of life. It concerns with the moral conscience and strengthening it to elicit positive actions and behaviour. The developments in technology through modern science are in no way a replacement of moral values. Just like we can survive without sun neither in ancient times nor to this date, the same way religion is also a fundamental part of human society by giving it values and meaningfulness.

If the precious moments of life are pursued in following the commands of the Creator with regards to moral behaviour and fulfilling responsibilities, then death will be followed by a life of everlasting happiness and that will begin for never-ending again. The concept of afterlife accountability promises absolute justice for every small act of evil or kindness in this life.

Immanuel Kant is quoted to have said: *"In law, a man is guilty when he violates the rights of others. In ethics, he is guilty if he only thinks of doing so.*[96]*"* The question is who knows the intentions and who can provide absolute justice. Even if we could know intentions and start enforcing punishment, the suffering is irreversible as the punishment can only take the life of the murderer at best. Criminals responsible for genocide and unjust wars cannot be accorded with absolute justice even if they accept all their crimes. Belief in afterlife accountability promises absolute justice for every small act of evil or kindness in this life. It enlightens human's life and makes every act of everyone relevant. Belief in afterlife accountability actualizes the cause and effect in moral matters.

Islamic worldview says that humans are one of the creatures of Allah along with other living and non-living things created by Allah. As creatures, not as fittest survivors, we owe thankfulness to Allah for our existence, which is made possible through all suitable life-supporting systems on this earth. This worldview engenders a spirit of compassion, humility, kindness, care, sacrifice and humbleness.

Have we created ourselves? If not and if we have been created, then the intellect with which we discover knowledge about the matter in physical sciences to answer the question of 'What is' and the

conscience with which we differentiate between right and wrong, are both created and bestowed by Allah.

Some people often ask that why would people who do not belong to any faith, but who do pro-social acts not get anything in the afterlife from Allah. If a person does not believe in Allah and afterlife, then, it is important to understand what will have been the motive of that person for good actions. It may be one of these things: 1) helping others and see their lives improve in this world, 2) getting a good name and die in good records till this world ends and 3) gain self-satisfaction till the life ends. These can be some of the broad objectives for a person who does good acts and who knowingly does not believe in Allah and afterlife. As far as this world can provide justice, all of these objectives will be achieved to a certain extent. If not achieved or if a person anticipates that the world will not be just enough to reward good actions and right intentions; then, one has to question how the 'aspiration of absolute justice' can be fulfilled. Religion promises absolute justice for every wilful action and intention in the afterlife for everyone.

Is faith just a human conception coming out of fear? As a matter of fact, the faithful people have lived in the most primitive civilizations as well as in the most recent times. Despite racism, bias, discrimination, genocide and even decimation of their native lands in some cases, the Muslims and Christian population alone would exceed 60% of the global population by 2050 as per Pew Research Centre[97]. In UK alone, about 5,200 people convert to Islam every year[98]. So, it is inappropriate to undermine conscious faithfulness by people who adopt faith even when it could result in bias, discrimination and racism.

The Creator introduces Himself rather than some people filling the gap with an assumed deity. Qur'an provides evidence of its divinity since its descriptive accuracy of nature (even though mentioned only as a supplement to its core message) is not contradicted by established facts of modern science. The unity of origin (*Tawheed*) is also consistent with the order and design manifested in the universe.

Every civilized society with laws accepts freedom only with responsibility. When that responsibility is determined and guided by the Creator Himself, belief in *Tawheed* enables a person to be free from being subservient to anyone else except the Creator. Belief in *Tawheed* ensures equality since every human being is the creature of Allah like everyone and everything else.

Religion does not argue for 'Creation' doctrine alone. It gives a worldview which explains the meaning and purpose of life, i.e. submission to Allah and ethical purification of actions and which will bring deterministic rewards with absolute justice in the afterlife.

Conscience is a powerful source to guide towards the straight path. Having knowledge of the right path, what will encourage righteous actions? What makes conscience functioning? Religion is not just a source of information to know right and wrong. Religion gives a worldview that explains the purpose of life. The objective of religious guidance is submission to Allah alone and ethical purification of one's actions. This belief should be reflected in one's duties to the Creator and the environment which includes other humans and animals of present and future generations. Belief in divine appraisal can limit mischief of those in authority, can motivate selfless behaviour and is a source of contentment for those with unfair lives and deaths since every small act of goodness and evil would be subject to deterministic rewards in the life hereafter.

The human mind wants absolute justice, but it is not possible for natural reasons like an army general cannot be given equivalent punishment for committing genocide and in cases where the oppressed are in a weak position legally, diplomatically, politically and militarily. Raymond Davis killed two human beings in Pakistan, but went free from Pakistan without any punishment. Later on, he was charged in the USA for a minor traffic violation. Chilcot report in UK is most critical about the loss of 150 British soldiers in Iraq war while more than a million Iraqi civilians also died in the unjust Iraq war.

Human conscience wants justice for oppressed and for all events where there is an injustice. Belief in afterlife accountability gives

meaning to life and what we and others do in it. Else, in a godless paradigm, it is just a game of survival of the fittest. Animals play it as well as humans with no difference between the two in the godless view of life.

Some people argue that why Allah despite being most merciful, does not end suffering and evil. Charles Darwin also had problem with understanding why there is evil. We know Allah by His attributes, which are informed to us by the divine scriptures. Even if one does not believe in the divine scriptures, one has to refer to the scriptures to understand the religious viewpoint. Allah is merciful as well as just and He is consistent in His attributes. The hardships people go through in this world are not necessarily a punishment in response to disobedience only. The blessings that we enjoy in this world are also not necessarily in response to virtuous actions alone. The endowment inequality in this world is a way to test thankfulness and patience in us. The test concerns the choices we make with free will and Allah will reward the quality of actions and sincerity of intentions in afterlife.

The sufferings which some people go through in this world are in some cases a result of morally indifferent behaviour. Lack of social justice, unequal opportunities, extractive socio-economic institutions, socio-political injustice and outright wars have resulted in loss of millions of lives in the modern scientific age. Religion compels pro-social behaviour to avoid sufferings as far as possible and even if the sufferings do occur without human interventions, then religion urges moral action to help the needy and exemplify self-less spirit in dealing with catastrophes. If we leave the faith altogether, then science alone cannot provide any solace and meaning to the people who live their lives in unfair circumstances and who die in vain unjustly.

Furthermore, it is often asked that sometimes we see people dying in accidents even in holy places. In addition to that, people including children often do not have normal capabilities to enjoy life to the fullest and even to exercise free will. The answer from the faith viewpoint is that those who are not able to exercise free will are not going to be held accountable for something in which they did not

have an opportunity to exercise free will. Approximately, more than 150,000 human beings die every day (Source: https://www.worldometers.info). Natural catastrophes just bring isolated deaths together at one point in time and space. These events act as a reminder of death and fragility of life. It provides a chance for reflection and introspection. These circumstances sometimes test compassion in those who remain unscathed. If life in this cosmos happened by chance and will end for no other consequences beyond this life, then this life ends both for the rich and for the poor, for the outlaws and for the victims of injustice and for the honest as well as the dishonest. A faith-based worldview which has been outlined above makes the life of everyone meaningful as well as accords due justice to everyone.

In addition to that, a question is sometimes raised that if Allah knows and has power over all things, then why He does not stop the evil actions before they cause suffering. In reflecting on this, it is important to understand how the faith-based worldview explains life in this world. Human life in this world is a trial in which if we remain faithful and morally conscious individuals in carrying out all normal duties of life, then we will be rewarded in life hereafter. If we do otherwise and live immoral lives, then we will not escape divine justice in the afterlife. Since the trial nature of this life requires the exercise of free will, that is why, Allah does not intervene to provide absolute justice in this world. However, faith-based teachings in Qur'an urge and compel moral and pro-social behaviour. The knowledge of perfect accountability boosts hope and aspiration and reduces despair of worldly misfortunes and temptation towards unrestrained material pleasures.

3.3. Non-Contradiction between Faith & Science

Prof. Richard Dawkins once said "*We are all atheists about most of the gods that societies have ever believed in. Some of us just go one god further*[99]". It is a casual remark to think about theistic beliefs. We also believe in no more than one Prof. Richard Dawkins and it still proves that Prof. Richard Dawkins exist.

Anthony Kenny gives response to such naïve assertion as follows: "*Many different definitions may be offered of the word 'God'. Given this fact, atheism makes a much stronger claim than theism does. The atheist says that no matter what definition you choose, 'God exists' is always false. The theist only claims that there is some definition which will make 'God exists' true.*[100]"

There is profound thinking and conviction with which people hold onto their beliefs. Monotheist religions differ in their details, but not in Who the One and Only God is. They believe in the same God. Since the religious scriptures were meant to be read by general public and were revealed in human language, the name maybe different in different languages. The important thing is the concept no matter whether we name pull of gravity as '*Kashish-e-Saql*' in Urdu language or by any other name in another language.

In fact, almost half of all scientists believe in some form of Deistic God as confirmed by a survey conducted by Pew Research in 2009. Among most of them who believe in God, they conceive of God as a singularity. Knowledge of Big Bang where everything originated from singularity also provides credence to the idea of a single Ultimate Creator.

There are only a handful of monotheistic divine religions in the world. Muslims believe that there was a single monotheistic religion. It was the same religion which was preached by Adam (pbuh), Noah (pbuh), Ibrahim (pbuh), Moses (pbuh), Jesus (pbuh) and Muhammad (pbuh) and all the other Prophets (pbut) in between Adam (pbuh) and Muhammad (pbuh). Christians defined their distinct faith as Christianity by believing in Jesus (pbuh) and denying Prophet Muhammad (pbuh) despite Bible giving clear signs of His arrival and characteristics. Jews defined their distinct faith by believing in Prophets before Jesus (pbuh), but denying Jesus (pbuh) and Muhammad (pbuh) despite Torah giving clear signs of the arrival of last Prophet (pbuh) and His (pbuh) characteristics[101]. The denial of the last Prophet (pbuh) is not supported by the religious scriptures which clearly foretold the last messenger by name, characteristics and traits. Muslims believe in all Prophets (pbut) including Jesus (pbuh) and Moses (pbuh). Muslims believe in all Holy Books. Since

these Holy Books were not kept in their original form, Muslims pay more heed towards the last Holy Book, i.e. Qur'an which was revealed in the daylight of history and which encapsulates the true teachings and foundational beliefs of the original monotheistic religion. Quran's every word has been transmitted from generations to generations through i) the verbal transmission of thousands of people in every age who had learnt it by heart and through ii) written transmission soon after Prophet Muhammad's (pbuh) time. Qur'an is the God's last words transmitted to humans on earth because it was ensured that these final verses will be preserved in the daylight of history.

Historical and archaeological records also tell us a lot about the past. The universe is expanding and the galaxies are moving away from each other at an ever accelerating speed. Future telescopes would only rely upon historical records to see the universe we are able to see at a special time. Else, the modern telescopes of future taking the latest pictures and filming reality even with increased capability will find and show darkness in space. Qur'an reminded Arabs, Jews and Christians about their history and historical records present with them and which provided them a clear chance to affirm truth and evaluate it. People like King Najashi (also known as Armah, the ruler of the Kingdom of Aksum) and Warqah Ibn Nawfal knowing their historical records and their reference in Qur'an were able to affirm the evidence of Prophet Hood of Muhammad (pbuh) through their own historical scriptures instantly.

Consistency of curiosity with which a historian, anthropologist, archaeologist and physicist works demands that one likewise gives attention to Qur'an with objectivity and sincerity.

Qur'an is not a book of science. But, to present its basic message, it focuses our attention on different realities, both within our consciousness and in the outside natural phenomena. Modern science has not found any error in Qur'an's descriptive statements about nature.

As a matter of fact, Islamic texts fourteen centuries back do not say that the earth was created a few thousand years ago. In fact, Qur'an

mentions that at different places in the universe, the length of the day could be hugely different as compared to Earth. When Qur'an discusses the material world, its descriptions are found to be consistent with established facts of modern science. In 650 A.D., those things could not have been conceived, observed and communicated by a person who did not receive any formal scientific education.

When Qur'an focuses our attention to nature, some of its descriptive statements about the state of early universe (Fussilat: 11), movement of mountains and continents (An-Naml: 88), human development in a mother's womb (Al-Mu'minun: 13-16), non-mingling nature of seas (Ar-Rahman: 19-20), rotation of planets, stars and celestial bodies (Az-Zumar: 5), expansion of the universe (Adh-Dhariat: 47), relative nature of time in the universe (As-Sajdah: 5), shining of moon by reflected sunlight (Al-Furqan: 61) and determination of sex (An-Najm: 45-46) are not contradictory to what we now know through established scientific knowledge.

It is inconceivable to many modern scientists who have also studied Qur'an that how can a person without extensive travel, writing ability and attending modern universities of knowledge, could explain things about history, nature and make socio-political predictions that would appear perfectly correct afterwards.

Dr. Keith Moore, former President of the Canadian Association of Anatomists and of the American Association of Clinical Anatomists remarked at a conference in Cairo that details of human development as mentioned in Qur'an must have come to Muhammad from God, or Allah, because most of this knowledge was not discovered until many centuries later[102].

The historical accuracy of Qur'an's socio-political predictions, perfect transmission through ages of its text, the unique eloquent language it carries and its accurate description of humans and nature should compel one to give it a sincere reading and reflect on its basic message. The basic message for us is that we are not created without any purpose. As per Islam, the purpose is to excel in our duties to Allah with a thankful attitude and be kind to all of

His creations including humans, plants and animals we interact and live with.

If a religious text is transmitted generations after generations with perfect historical accuracy and consistency and whose descriptive statements about history and future are verified perfectly and whose descriptive statements about what we see across nature and within ourselves is accurate and verified by established discoveries of modern science, then it is certainly a very serious candidate for us to consult in exploring the question of why life and for what purpose? As a matter of fact, Qur'an is such a book which comes true on all the above mentioned characteristics.

3.4. Does Faith Constrain Progress and Use of Science

Does faith require abandoning reason, reflecting on the matter, searching for physical answers and finding physical solutions? As per religion, one can use material means, experimentally proven knowledge and medication by all means. For instance, in psychological disorders and problems, the cure needs to be searched in medication rather than spiritual exercises alone.

Religion is not just concerned with psychological and spiritual medication and meditation. It is concerned essentially with the question of why life and for what purpose. The religious answer based on historically transmitted knowledge is that we are created by the Creator and Who will reward us justly in the afterlife. The afterlife will actualize the cause and effect in ethical matters and establish absolute justice which we desire for every action and intention. Qur'an repeatedly reminds of the blessings of Allah in the form of matter and intelligence which we use for our comforts and cures. After using the matter and intelligence which exists not because of our efforts, how rational and ethical it is that we remain not only thankless, but negate the one Who is to be thanked altogether.

The sole purpose of religion is not to be a psychological panacea or just a little bit more numerous, better and different social set of norms. It is concerned with questions of why life and for what

purpose. Both matter and intelligence exist without us creating them. We merely use them without being the original creators of those things.

Internal to us, we have an urge to find meaning to life and our existence. Our consciousness asks for a suitable explanation. Have we come to exist by chance? It is highly unlikely given the extremely accurate conditions required in numerous factors for the life to exist. The human mind suggests that there should be a creator for everything which is not its own creator. Therefore, faith in God is not based on speculative conjecture of 'god of the gaps'. Taking a position that there must be a Creator of this universe is a logical answer instead of believing in existence due to blind random forces by chance.

To complement our internal urge to believe in a Creator, we are also provided guidance external to us. Allah has introduced Himself through His books and messengers (pbut). Qur'an, the last divine book in presenting the basic premise of Islam focuses our attention on some aspects of nature. Modern science instead of undermining faith has actually found nothing inconsistent about these statements with established facts of science.

Nowhere in Islam, is it said that one should replace physical efforts with mere supplication. Islam urges Muslims to explore and use nature for societal well-being and pursue economic sustenance. Tremendous advances in science happened in the heyday of Muslim civilization which stopped partly due to genocide and massacre carried out in Crusades and in the invasion of Baghdad by Mongols. Those who took science further in the West were also mostly religious people for a long period of time.

Prof. Pervez Hoodbhoy, a noted Physicist, asks that if *Salat-e-Istasqa* is performed, then why it does not rain often. He wrote: "*The equations of fluid flow, not the number of earnest supplicants or quality of their prayers, determine weather outcomes.*[103]" The answer is that *Salat-e-Istasqa* is a voluntary prayer to ask Allah's blessings. The collective performance of this prayer is not the replacement of physical efforts or understanding of physical

phenomena. It only serves as a moment of reflection and reminder for the people who pray. For instance, when Qur'an says that Allah provides sustenance, it does not imply that we sit idle and do not engage in *Kasb-e-Halal* (legitimate economic enterprise). Likewise, if physical efforts or physical understanding can help in dealing with physical problems, then all efforts towards these ends shall be undertaken.

Prof. Stephen Hawking once said: *"I have noticed even people who claim everything is predestined, and that we can do nothing to change it, look around carefully before they cross the road.*[104]*"* Religious faith does not mean that after accepting faith, one can walk on water, fly in the air or defy physical limits in any other sense. Religion concerns with moral content in choices made with free will. Repeatedly, Qur'an asks people to strive for knowledge, discovery, exploration and virtuous livelihood. Nowhere there is a restriction on planning or in using material resources bestowed by the Creator.

Religion allows economic endeavours and scientific endeavours to achieve economic livelihood and convenience. It does not ask one to sit idle and expect to be fed naturally or automatically. It does not ask to avoid medicines and cures to treat illnesses. It does not discourage intellectual and scientific pursuits to discover cause and effect relations in the universe and make use of such knowledge. Even in religious knowledge, religion does not feed religious knowledge in brains automatically, but it asks to seek that knowledge by reading, deciphering, thinking and reflecting. Seeking knowledge is regarded as an obligation rather than fed as an effortless gift in humans. In fact, every endeavour which brings comfort, convenience, social good and welfare is an act of virtue and religion encourages one to cooperate in virtuous endeavours (Al-Maida: 2). Thus, in pursuit of livelihood or finding cure of a disease, religion does not prescribe some religious rituals alone.

Religion guides about ethics and morality in all human endeavours including scientific endeavours. For instance, religion would not allow using technology to kill someone, harm others and destroy resources and environment. As a matter of fact, 200 million people

died in 20th century wars alone, which is equal to all of human population on earth living at the time of Jesus (pbuh). WWF reports that humans have destroyed half of all animal life in the last 40 years alone. Humans just make up 0.01% of all life but have destroyed 83% of wild mammals, according to a report published in the Proceedings of the National Academy of Sciences[105]. Scientists had termed the current age 'Anthropocene' due to the unprecedented loss caused by human activities in the modern age[106]. In this kind of involvement of religion in scientific endeavours, religious values play a positive role in emphasizing responsibility, care, preservation and cooperation.

The second possible point of contact between religion and science can come in answering questions of origin, existence and meaning. These questions do not come in the domain of science. Nonetheless, still some scientists who do not believe in any Ultimate Creator and divine religion tend to argue for their held beliefs from some scientific theories. It is conveniently forgotten that any scientific theory has no concern whatsoever with the 'will' behind material cause and effect relation. Science can explain chemical processes, physical processes and biological processes involving material causes and effects. But, science does not concern with the purpose behind material processes.

Growing crops through chemical processes can be explained through science, but what end they are used for does not come under the domain of science. Chemistry can help in increasing productivity of food crops as well as making chemical weapons. Abortion of a baby without putting life of mother at risk can be explained through biology, but science does not answer whether it is right or wrong. Weapons of mass destruction can be made through knowledge of disciplines like nuclear physics, but using this knowledge to decimate entire human population in a city or country is a decision whose correctness or incorrectness cannot be judged or answered from science.

If there is a will to produce something or make something happen, then as long as the process of production involves material process, then it can be explained through science. If not all such material

processes are comprehensible through science, they still potentially can be with advancement of science in future. However, the will and purpose to start the whole process does not come under the purview of science.

From where did all the initial matter and material processes through which we explain the recipe of life come from? All that we have done through science is to use the pre-existing matter inside the universe in ways that benefit us by exploiting the cause and effect relations from observation and experimentation.

When we play video games, through experience, we learn the rules of the game and make progress to the advanced stages. We do not infer from this experience that the game was not developed by someone. We know that someone will have made the rules. If we come across a computer software or application, then after observation and careful thinking, we can decipher how it was made. By having grasp of computer programming, we can identify the recipe – the code and algorithm – which is behind that computer application. However, it does not mean that discovering the programming code and algorithm of an existing computer program proves its self-existence without any developer.

In our conscious experience, we do not find ourselves like other inanimate objects in the universe. Our bodies might be having the same inanimate matter that is also part of non-living objects, but we have consciousness. Other life-forms also have consciousness.

We know that we are not our creators. If we had the power to create ourselves, why would we be not able to avoid pain, illness and death? Another alternate conjecture is that we have come to exist in this universe by accident. But, science has shown that it is next to impossible to have life by accident in its most sophisticated manifestation as we see it, experience it and then die after at most few million breaths under the sun. Life exists on a knife's edge. Other life-forms and inanimate objects are also composed of the elements that exist in the universe and their existence cannot be explained through self-creation.

Furthermore, we humans in particular have conscience apart from consciousness. We have ability to differentiate right from wrong. We have self-awareness. If we are result of genetic mutations alone without any Creator and we have come to exist as the fittest species, then is there any harm or anything wrong if we mutate or destroy other life-forms. If water is scarce and we do not want to change our lifestyles and industrial production of unnecessary goods, then what is wrong if we kill few thousand camels instead? For that matter, even human populations. Why is that wrong in the evolutionary biology story where we start from inanimate matter and then decompose into a debris of matter again eventually.

In fact, we have only speeded up extinction in the last 50 years when the science has been on its peak. Morals do not come from evolutionary biology. Towards that end, it is the depressing story of survival upon survival through destruction upon destruction. No wonder we are now seeing tremendous loss to ecology, environment, bio-diversity and forests after setting aside values and morals.

Another question that always strikes a person in every age is the purpose and meaning of life. This is also a question which is outside the domain of science. When some scientists not believing in God relate their atheistic philosophical viewpoint with evolutionary biology, they are making a philosophical conjecture. It is not the domain of science or any scientific theory to discuss 'will' and 'purpose' behind material cause and effect relation. Science is concerned with the recipe (how), not the purpose (why).

Religion explains that this universe had a beginning and it was created. After a long period of time, humans inhabited the planet earth in this universe. Humans were created and given this life by the Creator in order to test who among them live a virtuous and ethical life. During this life, there will be temptations to achieve short term material benefit, but unethical conduct will make humans deserve punishment in life hereafter. In contrast, virtuous actions of justice, fairness, generosity, kindness, cooperation and sacrifice will deserve deterministic rewards in life hereafter. Since this life is a trial, one cannot get deterministic rewards in this life.

But, every intentional act will get deterministic justice in life hereafter. That is the basic essence and message of religion. It does not matter whether life on this earth came to exist by whichever material process. Religion informs about the 'will', the source and the purpose behind creation of humans.

A reflective human mind would look at the COVID-19 pandemic and will be reminded that this life will end one day for him from one or the other material cause. But, it does not matter whether it will be due to any disease or accident. However, his life and life of others is not meaningless.

Doctors and nurses who are fighting hard to save lives of COVID-19 patients might lose their own in the process. But, if they believe in the life hereafter, then their virtuous acts will earn them rewards in the life hereafter which will begin for never ending again. Unlucky patients who die from this pandemic and those who die from other reasons may have been denied what they deserved in this life. Those who got killed, robbed, denied justice and discriminated against will get deterministic justice and rewards in life hereafter if they had lived virtuous lives given their circumstances in this life.

The lucky ones who survive this pandemic will also die one day. If they had helped the ones who were ill, who were hungry, who were deprived, who were unfortunate and who needed help, then their acts of kindness, generosity, sacrifice and devotion will transcend this world and will give those people rewards in life hereafter which will begin for never ending again.

A reflective mind will keep in mind the scientific and historical evidence that death is as much a fact as is life. The belief in life hereafter completes the cause and effect puzzle even in moral sphere of life. In life hereafter, everyone will get deterministic reward for intentional acts in this life based on the ability and freedom in the circumstances which one faced in this life, no matter whether rich or poor, white or black, male or female, strong or weak and elite or commoner. That makes life of everyone meaningful rather than a constant struggle of survival in one form of matter to

the other form of matter where survival instinct is the only moral code.

Conscience is there in all humans and it gives us clear idea of good and evil. Call to conscience brings sacrifice and selfless choices. But, the life ends for many people without them getting fair reward or punishment.

Oneness of God gives us an anchor to see us as part of a universal clan of creatures. All life forms do not create or control breath in themselves or others. We inhabit universe collectively and are equal in sharing it.

Consciousness is there in animal life. Beyond animal instincts, humans also have inherent recognition of good and evil in their conscience. Belief in deterministic justice and rewards in afterlife fulfils our aspiration to have true and fair reward for every small act of goodness and evil in afterlife. Every moment of a nurse and that of a cured or dead patient is not meaningless if one believes and prepare for afterlife by achieving excellence in morals.

Imam Ghazali wrote that wealth is useful till we die, relatives till we are put in grave and only good deeds will be the currency on judgement day[107]. If we have good deeds to take in next life, then we can have everlasting happiness that is not infected and affected by any Corona Virus.

Chapter 4

Role of Values in Modern Society

4.1. Sustainability Challenges in the Age of Science

According to World Values Survey sixth wave (2010-2014) data for 60 countries, 27.7% Muslim respondents stated that 'looking after the environment and to care for nature and save life resources' best describes their view and attitude towards the environment as compared to 22.5% others stating the same view[108]. It is interesting to note that the top 5 countries with the largest carbon emissions are: China, United States, India, Russia and Japan[109].

Species extinction, global warming, climate change, depletion of the ozone layer and massive carbon emissions are contemporary problems that we face. In a post-industrial society, humans have pushed planetary boundaries by unprecedented carbon emissions, deforestation and sea contamination, all of which is accelerating global warming. The sustainable existence of life and life-supporting systems require responsibility, humility, contentment and commitment in place of the self-centric pursuit of instinctive pleasures. We have pushed planetary boundaries through the unprecedented burning of fossil fuels, rapid deforestation, contamination of seas and which has caused a rise in temperature, frequent heat waves, floods, melting of glaciers and enormous loss of marine and tropical forest species.

Some three centuries after the onset of the industrial revolution, we have achieved phenomenal economic growth. Gross World Product has risen from a mere $100 billion in 1700 to $85 trillion in 2018, according to the World Bank data. During the 20th century, the world population increased by a multiple of 4, whereas the

industrial output grew by a multiple of 40. However, the intensity with which environmental resources are used increased sharply. The last two generations in the twentieth century alone brought an increase in energy consumption by a multiple of 16. Fish harvesting increased by a multiple of 35 and carbon and sulphur emissions grew 10 times[110].

It is estimated that continued use of fossil energy will lead to an increase in the average global temperature by 1.0–3.5 degree Celsius in the coming 50–100 years[111]. Remarkably, 97.1% of scientists endorsed the consensus position that humans are causing global warming[112].

In addition to the above anthropogenic disruptions, the global sea levels have risen by about 8 inches since 1870, according to the World Research Institute. Ironically, we have a garbage island of the size of India, Europe and Mexico combined floating in our oceans. On the other hand, we also waste almost one-third of the food that we produce[113].

Thus, the enormous economic growth that we have achieved has come at a significant cost to the environment and life-supporting systems on the planet[114]. Even the benefits of economic growth have not been shared equitably among the last five human generations. According to Oxfam, the 26 richest billionaires own as much wealth as the poorer half of the world's population[115].

As per the World Bank, there are 767 million people below the poverty line of $1.90 a day. It means that poverty gap is $531.9 billion (1.90 x 767,000,000 x 365) per year. Comparing the wealth owned by only the richest persons and the total global poverty gap funding requirement ($531.9 billion), one can see how redistribution of wealth can help in pooling poverty alleviation funds. Oxfam reports that global wealth has reached $255 trillion[116]. It is enough to give $1 a day to 767 million poor people for 910 years.

In contrast, nearly one in every four persons in Africa goes to bed hungry every night, according to the Food and Agriculture Organization[117]. Hunger kills more people each year than AIDS,

malaria and tuberculosis combined[118]. Do we really have a scarcity of resources due to which we cannot end poverty, hunger and famine? Nobel Laureate, Amartya Sen did research on famine in Bengal and he argued that the famine was not caused by the lack of resources[119]. Strikingly, according to the Food and Agricultural Organization, for the world as a whole, per capita food supply rose from about 2,200 kcal per day in the early 1960s to more than 2,903 kcal per day by 2014 as highlighted before in Chapter 2.

This state of affairs represents an enormous moral crisis[120]. The rapid deterioration of the human environment is nothing but a crisis of values[121]. This position is not a default outcome of random interactions of matter. We have reached this point as a result of conscious human actions, even if they represent a minority of affluent human beings. The views about life affect our preferences and choices. Thus, the sustainable existence of life and life-supporting systems hinges upon a social contract and worldview which can inculcate the notion of responsibility, humility, contentment and commitment in place of the self-centric pursuit of instinctive pleasures with envy and carelessness in our minds.

Even if the fiat money is printed excessively, it cannot substitute and exchange nature beyond capacity. Estimates suggest that the minimum annual average value of ecosystem services is 1.8 times the global Gross National Product (GNP)[122]. Hence, the replacement cost of natural resources is more than the economic output that we produce annually. On the other hand, many ecosystem services are literally irreplaceable. Nature is irreducible to its purely quantitative aspect, just as a book is irreducible to its weight or dimensions.

4.2. How Much Faith Matters for Future of Society

The theistic concepts of *Tawheed*, *Khilafah* and *Akhirah* govern the Islamic way of life. Belief in the single source of creation defies racial, ethnic or gender basis of biases. According to Islam, all creations belong to Allah. *Tawheed* also implies interrelatedness of all things in nature due to common status as creatures originating from a single source, i.e. the will of a Supreme Being. Animals and

plants are partners to humans in the universe[123]. Simultaneously, the concept of *Khilafah* raises the stature of human beings as moral beings with an inbuilt and active conscience, which provides the ability to differentiate moral from immoral acts. The concept of *Khilafah* inculcates the responsibility of custodianship, trusteeship and stewardship in human beings with regards to the use and ownership of physical property and environmental resources. The two worldly view of life in Islam extends the decision horizon of economic agents, be they firms or consumers.

While the concept of *Tawheed* creates an equal basis for humans to use what is bestowed in nature, the concept of *Khilafah* instils stewardship towards the responsible use of natural and environmental resources without pushing planetary boundaries and causing precious loss of biodiversity. Some research studies investigated the link between faith and attitudes to environmental issues. As per the findings, the Muslim participants argued that the continued burning of fossil fuels would be immoral because it could disrupt the balance of nature, leave a dubious inheritance for future generations, and would constitute poor stewardship of Allah's creation, for which humans would be judged[124]. In some cases, it is found that religious motives in practice prove to be strong motivators for environment friendly actions like conservation and tree plantation than just the laws of the land[125].

Environmental stewardship requires that we use natural resources ethically so as to equally improve the welfare of society, other living organisms, and future generations[126]. In the Islamic worldview, the relationship between humans and nature is one of custodianship or guardianship, and not of dominance[127]. The earth's resources are available for humanity's use, but these gifts come from God with certain ethical restraints. We may use the resources to meet our needs, but only in a way that does not upset ecological balance and that does not compromise the ability of future generations to meet their needs[128].

The Islamic moral injunctions influence preferences through moral filtering of the consumption set by identifying the moral 'bads'. The moral philosophy imbued with socio-ethical spirit extends the

decision horizon of consumers. It encourages the transformation of self-centric self-interest into self-cum-social centric self-interest. The moral injunctions explicitly extol virtuous philanthropy. Finally, by flattening all other basis of distinction except on piety, Islamic values garner contentment whereby, the consumer is asked to avoid envious and conspicuous consumption of luxuries.

Islamic philosophy of life prioritizes equitable distribution over efficiency. Overreliance on efficiency paralyses the equity and ethical concerns of development policy change. While Islamic principles allow freedom and liberty in lawful consumption within the moral boundaries, they induce affirmative action to promote well-being when people possess the means. In contrast, according to consumer sovereignty, as long as people can put up dollar votes for their preferences, resources will be allocated on producing, marketing and distributing inessential goods even if a quarter of the world population lives in poverty and suffers from hunger, malnourishment and curable diseases.

Rather than complimenting humans in their animalistic instincts to keep having a one-eyed focus on material well-being only, Islam inculcates piousness, kindness, cooperation and communal responsibility in humans. In some instances, Islam guides explicitly to avoid extravagance, lavishness and using certain products and services which harm a human's ethical existence and well-being either individually and/or harm the society in the process. Islamic economics incorporates ethical values and excludes from the consumption bundle various goods which bring either private loss or welfare loss to the society.

Islamic philosophy of life brings a long-term perspective to the pursuit of self-interest by informing humans about the positive and negative consequences of their actions and choices in the life hereafter. In the Godless worldview, due to the absence of afterlife accountability, the rich people with absolute and inviolable property rights can command natural and environmental resources whose potential lifespan is much more than the lives of their owners. But, if the rich people believe in no afterlife accountability,

they can extract and exploit these resources quickly and deprive future generations of their use.

Climate change is slow, but a cumulative process. Individual human lifespan is only an infinitesimally small fraction of the life of environmental resources and ecosystem services. Hence, the self-centric and this-worldly view of life is incompatible with the concerns of sustainability and socially responsible behaviour. Rather, the dogmatic commitment to self-centric worldview results in the inevitable proliferation of pollution as a right and product to be bought and sold in the market economy. It is ironic, but inevitable to see measures such as 'statistical value of life'. On the action and policy front in capitalistic democracies, voter ignorance as well as the public-good nature of any results of political activity tends to create a situation in which maximizing an individual's private surplus through rent seeking can be at the expense of a lower economic surplus for all consumers and producers.

Mainstream economics has become a discipline devoid of values. The exploitation of the natural environment can be abated when individuals consider intergenerational welfare and justice to be important factors in their economic decisions. The effective solution to the environmental problems depends on the overall worldview which spells out the relationship between man, nature and his Creator. Religion provides such meaningful conditioning which enables bringing the right balance between human aspirations and the physical limits of nature. Religion also promises salvage from the limitedness of this worldly life in heaven which will be awarded to the most righteous people. This, in turn, provides a permanent incentive to choose righteous behaviour as an end in this world with the hope and fear of deterministic results in the life hereafter.

4.3. Values-Based Learning to Foster Commitment

The Sustainable Development Goals (SDGs) as the successor to Millennium Development Goals (MDGs) represent a broader intergovernmental agreement to foster action on broad-based development encompassing economic development, human development and environmental sustainability. There are at least 6

out of 17 goals which are closely related to the environment. Goal 6 on water and sanitation aims to ensure availability and sustainable management of water and sanitation for all. Goal 7 on energy aspires to ensure access to affordable, reliable, sustainable and modern energy for all. Goal 12 on consumption targets sustainable consumption and production patterns. Goal 13, on climate, urges action to combat climate change and its impacts. Goal 14 on marine-ecosystems emphasizes conservation and sustainable use of the oceans, seas and marine resources for sustainable development. Finally, Goal 15 on ecosystems vows to restore and promote sustainable use of terrestrial ecosystems, sustainable management of forests, combating desertification and check land degradation and biodiversity loss.

When we look at Islamic environmental ethics encapsulated in Islamic principles, we find that they complement these SDGs and can act as a catalyst to foster commitment, responsibility and affirmative action for sustainable and congenial co-existence with the environment. With the concept of afterlife accountability, Islam immensely influences choice and behaviour. It helps private economic agents (consumers and producers) to modify their actions in such a way that takes externalities (social effects) into consideration and also their own welfare, both in this world and afterwards. The discussion of 'protection of progeny' as Maqasid-e-Shari'ah shows the ethical commitment to sustainable existence in an Islamic paradigm much well before the reactionary focus in the West about sustainable development. Below, we mention some verses from Qur'an and sayings of Prophet Muhammad (pbuh) which discuss the responsibilities to the environment.

It is pertinent that humans incorporate social costs in their private actions for achieving environment related SDGs. If we want clean air, fresh water and proper sanitation for ourselves, then we must also like these things for others living in the present age as well as those who are to come in this world in the next generations. Prophet Muhammad (pbuh) said that a Muslim is one who avoids harming others with his tongue and hands. (Source: Sahih al-Bukhari, Vol 1, Book 2, *Hadith* No. 9).

The realization of the enormous value of nature and environment even if it is in no one's private ownership is vital for fostering a culture of care and responsibility towards the environment. Qur'an refers to nature as 'Ayat' (signs). Affirmative actions towards preserving and conserving environment are needed as a culture for achieving environmental sustainability. Islamic philosophy of life provides the necessary impetus and deterministic rewards for affirmative action towards promoting positive externalities in the environment. Prophet Muhammad (pbuh) said: *"Whoever plants trees, God will give him reward to the extent of their fruit."* (Source: Musnad, Vol 5, *Hadith* No. 415).

Climate change and environmental degradation is a slow and cumulative process. To conserve environment, the efforts also need to be cumulative and consistent. A self-centric secular worldview encourages the self-centric use of private property resources. However, even small things done collectively and consistently can have a compounding effect. The two-worldly view of life in Islam encourages socially responsible behaviour as one of the prime determinants of salvage in the life hereafter. Prophet Muhammad (pbuh) said: *"If the Resurrection were established upon one of you while he has in his hand a sapling, then let him plant it."* (Source: Musnad Ahmad, *Hadith* No. 12491).

Qur'an informs that other species also praise and thank the Creator for the blessings. Qur'an says: *"Do you not see that to* Allah *bow down in worship all things that are in the heavens and on earth - the sun, the moon, the stars; the hills, the trees, the animals; and a great number among mankind?"* (Al-Hajj: 18). The single source of creation as encapsulated in the concept of *Tawheed* undermines the tendency to feel 'fittest survivors'. It brings humility, congeniality and peaceful co-existence with other life in the environment. Prophet Muhammad (pbuh) said: *"A good deed done to a beast is as good as doing good to a human being; while an act of cruelty to a beast is as bad as an act of cruelty to human beings", and that: "Kindness to animals was promised rewards in life hereafter."* (Source: Mishkat al-Masabih; Book 6; Chapter 7, 8:178).

In another narrative, the Prophet (pbuh) was asked whether acts of charity even to the animals were rewarded by Allah or not. He replied: *'yes, there is a reward for acts of charity to every beast alive.'* (Source: Sahih Muslim, Book 26; *Hadith* No. 5577).

Killing animals for fun or mere sport is strictly disallowed in Islam. In order to protect land, forests and wildlife, Prophet Muhammad (pbuh) created inviolable zones known as *hima* and *haram*, in which resources were to be left untouched. *Hima* applies particularly to wildlife and forestry and usually designates an area of land where grazing and woodcutting are restricted, or where certain animal species are protected.

As mentioned earlier, almost one-third of the food goes wasted while on the other hand, one out of every nine people in the world suffers from hunger, according to the Food and Agriculture Organization. Islamic principles discourage conspicuous consumption on luxuries. Qur'an says: *"… Waste not by excess: for* Allah *loveth not the wasters."* (Al-Ana'am:141) When Prophet Muhammad (pbuh) saw Sa'd performing wudu, He (pbuh) said: *"What is this? You are wasting water."* Sa'd replied: *"Can there be wastefulness while performing ablution?"* Prophet Muhammad (pbuh) replied: *"Yes even if you perform it in a flowing river."* (Source: Ibn-e-Maja, VI, *Hadith* No. 425).

Even with finite resources, we can still do much better in reducing hunger, malnourishment, child mortality and deaths from easily curable diseases. This requires a transformation of self-centric view of life into self-cum social-centric one. Prophet Muhammad (pbuh) said: *"Among the three types of people with whom God, on the Day of Resurrection, will exchange neither words nor look at is the one who possesses an excess of water but withholds it from others. God will say to him: Today, I shall withhold from you my grace as you withheld from others, the excess of what you had, but which you did not create."* (Source: Sahih Al-Bukhari, Vol 3, Book 40, *Hadith* No. 557).

The drive for mutual help, engendering compassion, respecting biodiversity, equity and sustainability require upholding values

which are strengthened by religion. Else, the same scientific advances can be used to drop atomic bombs, use chemical weapons and spend on military more than on hunger. Godless perspective promotes individualism and selfishness. Environmentalists call the post-industrial age 'Anthropocene' since humans have pushed planetary boundaries which has put life at risk for various species including for homo-sapiens themselves.

4.4. Governing Principles for Responsible Consumption

In describing human's nature, Qur'an mentions that humans are generally hasty (Al-Isra: 11), miserly (Al-Isra: 100), impatient (Al-Ma'arij: 19) and have a love of wealth (Al-Aadiyat: 8). Thus, humans have impatience, positive time preference, tendency to economize on spending and desire for material resources.

Islamic texts recognize consumption externalities and desire to consume positional goods and indulging in conspicuous consumption (Al-Takaathur: 1-2). According to Islamic texts, human instinct prefers goods which serve survival needs as well as other wants which serve non-survival needs (A'al-e-Imran: 14). The story of Jews asking Moses (pbuh) for a variety of food (Al-Baqarah: 61) also hints at the desire for variety in consumption bundles and diminishing marginal utility.

In a Hadith, Prophet Muhammad (pbuh) said: *"If Adam's son had a valley full of gold, he would like to have two valleys, for nothing fills his mouth except dust (of the grave)..."* (Al-Bukhari, Book of Ar-Riqaq, Vol 8, Hadith No. 6436). This also hints at the instinctive desire of humans for non-satiated preferences. Prophet Muhammad (pbuh) said: *"The heart of an old man remains young with regards to two things: Love of life and wealth."* (Al-Muslim, Book of Zakat, Vol 3, Hadith No. 2410). However, we shall see how Islamic teachings prescribe guidelines for moderating these instincts and inculcating empathy in conduct and behaviour.

Islamic teachings make a distinction between permissible and impermissible goods. Qur'an says *"... Eat of that which is lawful and good on the earth..."* (Al-Baqarah: 168). Islam forbids

intoxicants (Al-Baqarah: 219), the meat of dead animals, blood and flesh of swine (Al-Baqarah: 173). In financial services, Islam forbids interest (Al-Baqarah: 276) and gambling (Al-Maida: 90), for instance. On some occasions, even lawful goods become impermissible, such as during the time of fasting (Al-Baqarah: 183). Fasting in the month of Ramadan from dawn to sunset is prescribed for Muslims to make them become God-fearing by restraining their desires and achieving moral consciousness. Nevertheless, Islam does not approve monasticism (Al-Hadid: 27).

Instead of being miser and spendthrift, Islam wants Muslims to have moderation in their consumption, both with respect to present consumption as well as future consumption. Allah in Qur'an says: *"And let not your hand be tied (like a miser) to your neck, nor stretch it forth to its utmost reach (like a spendthrift), so that you become blameworthy and in severe poverty"* (Al-Isra: 29). In another verse, Qur'an says: *"And those, who, when they spend, are neither extravagant nor niggardly, but hold a medium (way) between those (extremes)."* (Al-Furqan: 67).

In a Hadith, Prophet Muhammad (pbuh) said: *"Spend according to your means; and do not hoard, for* Allah *will withhold from you."* (Al-Muslim, Book of Zakat, Vol 3, Hadith No. 2378). Islam expects Muslims to avoid being spendthrift and extravagant. Allah in Qur'an says: *"… Waste not by extravagance. Verily, He likes not those who waste."* (Al-Ana'am: 141). In another verse, Allah in Qur'an says *"...Spend not wastefully (your wealth) in the manner of a spendthrift."* (Al-Isra: 26).

Islamic principles recognize consumption externalities (looking at the lifestyle of others) and counter them by explicitly cautioning against envy, egoism and pride. Instead of indulging in conspicuous consumption, Islam wants Muslims to observe humbleness and shun pride (Al-Isra: 37; Luqman 18). Qur'an says that Allah does not like proud boasters (Al-Hadid: 23).

Islam also does not approve envious behaviour. Qur'an says: *"The desire for piling up of worldly things diverts you until you reach the graves."* (Al-Takaathur: 1-2). Instead, Qur'an prescribes *"... Do not*

covet the bounties which God has bestowed more abundantly on some of you than others..." (Al-Nisa: 32).

Prophet Muhammad (pbuh) said: *"Envy consumes good deeds just as fire consumes wood, and charity extinguishes bad deeds just as water extinguishes the fire."* (Sunan Ibn-e-Maja, Chapters on Asceticism, Vol 5, Hadith No. 4210). Prophet Muhammad (pbuh) educated Muslims to be like none except the one who is given the knowledge of Qur'an and the one who spends in charity (Al-Bukhari, Book of Virtues of the Qur'an, Vol 6, Hadith No. 5025). Prophet Muhammad (pbuh) advised: *"Look at the one who is at a lower level than you, and do not look at the one who is above you, for that may keep you from scorning the blessings of* Allah*."* (Al-Muslim, Book of Asceticism, Vol 7, Hadith No. 7430)

Qur'an educates Muslims that wealth will not last forever (Al-Humazah: 1-3). Wealth and children are only a trial (Al-Taghabun: 15). The temporary nature of this worldly life and material dispensation is eloquently summed up by Qur'an as follows: *"Know that the life of this world is only play and amusement, pomp and mutual boasting among you, and rivalry in respect of wealth and children, as the likeness of vegetation after rain, thereof the growth is pleasing to the tiller; afterwards it dries up and you see it turning yellow; then it becomes straw..."* (Al-Hadid: 20). In one Hadith, Prophet Muhammad (pbuh) said: *"Richness is not in having many possessions, but richness is being content with oneself."* (Jamai-at-Tirmidhi, Chapters on Zuhd, Vol 4, Hadith No. 2373).

Islam does not recognize impure altruism to satisfy ego and to achieve fame and recognition (Al-Baqarah: 264; Al-Maoon: 6). Prophet Muhammad (pbuh) advised anonymity and secrecy in charitable giving such that the right hand does not know what the left hand is giving (Al-Muslim, Book of Zakat, Vol 3, Hadith No. 2380). Allah says of the ideal believers in Qur'an: *"And they give food, in spite of their love for it to Miskin (poor), the orphan, and the captive. (Saying): 'We feed you seeking* Allah*'s countenance only. We wish for no reward, nor thanks from you'"* (Al-Insaan: 8-9). Qur'an urges believers to spend what they love in order to achieve righteousness (Aa'l-e-Imran: 92), spend throughout their

lives (Al-Munafiqun: 10) and the ideal is to spend whatever is beyond their needs (Al-Baqarah: 219).

Qur'an urges Muslims to show kindness, generosity and benevolence to their fellow human beings. Allah says in Qur'an: *"… Do good to parents, kinsfolk, orphans, Al-Masakin (the poor), the neighbour who is near to kin, the neighbour who is a stranger, the companion by your side and the wayfarer (you meet) …"* (Al-Nisa: 36). Qur'an says in another place: *"So give to the kindred his due, and to Al-Miskin (the poor) and to the wayfarer..."* (Ar-Rum: 38). Feeding orphans and poor is regarded as highly virtuous acts (Al-Balad: 12-16) in Qur'an. Qur'an exhorts Muslims to look after orphans and treat them with kindness and generosity (Al-Fajr: 17-20), work honestly in their property (Al-Baqarah: 220) and avoid oppressive treatment (Al-Dhuha: 9) as well as refrain from harsh behaviour (Al-Maoon: 2). Qur'an strictly prohibits usurping the endowments of orphans (Al-Nisa: 2).

Prophet Muhammad (pbuh) declared that the best charity is to spend (in charity) while you are healthy, aspiring, hoping to survive, and fearing poverty, and not delaying until death comes to you (Sunan Abu Daud, Book of Wills, Vol 3, Hadith No. 2865). Allah wants the believers to avoid miserliness (Al-Nisa: 37). Instead of enjoining miserliness, Islam urges Muslims to help one another in good acts and endeavours (Al-Maida: 2).

Since Islam only accepts pure altruism, it promises numerous incentives for it in its two-worldly view of life. Several verses in Qur'an promise due reward for pure altruism (Al-Tauba: 121; Fatir: 29; Al-Hadid: 7). In several other verses, spending in charitable ways for the sake of Allah is compared to a good loan which Allah will repay with a manifold increase (Al-Hadid: 11; Al-Hadid 18; Al-Taghabun: 17; Al-Muzzammil: 20). In several Ahadith also, Muslims are encouraged to spend so that Allah also spends on them with His blessings (Al-Bukhari, Book of Commentary, Vol 6, Hadith No. 4684).

4.5. Governing Principles for Economic Enterprise

The Islamic teachings encourage striving for Halal (permissible) means of earning as long as the other duties, such as worship to Allah are performed (Al-Jumuah: 10) and impermissible means and ways of earning are avoided, such as interest (Al-Baqarah: 276), bribery (Al-Baqarah: 188), fraud (Al-Mutaffifeen: 1-4), gambling (Al-Maida: 90), theft (Al-Maida: 38), business of intoxicants (Al-Maida: 90) and prostitution (Al-Nur:19), for instance. In general, barring the above exceptions, Qur'an allows mutually beneficial and consensual economic exchange (Al-Nisa: 29). As per Islamic texts, endowments bestowed by Allah are to be used for material goods as well as for societal causes to earn *Falah* (well-being in both worlds). Prophet (pbuh) said: *"The truthful and trustworthy businessman will be in the company of Prophets, saints and martyrs on the Day of Judgment."* (Jami-al-Tirmizi, Vol 3, Chapter on Business, Hadith Number 1209).

Islam discourages idleness, dependency and unnecessary exit from the labour force. Prophet Muhammad (pbuh) said: *"For one of you to go out early to gather firewood and carry it on his back so that he can give charity from it and be free of need from the people, is better for him than to ask a man who may give that to him or refuse. Indeed, the upper hand (giving) is more virtuous than the lower hand (receiving), and begin with (those who are) your dependants."* (Jami-at-Tirmidhi, Vol 2, Chapters on Zakat, Hadith Number 680). In another Hadith, Prophet Muhammad (pbuh) explained: *"The upper hand is better than the lower hand, and the upper hand is the one that spends, and the lower hand is the one that asks."* (Sunan Abu Daud, Vol 2, Book of Zakat, Hadith Number 1648). Prophet Muhammad (pbuh) said that begging is not lawful for the rich and physically fit except for the one who is severely poor or in perilous debt (Jami-at-Tirmidhi, Vol 2, Chapters on Zakat, Hadith Number 653).

Islamic teachings make a distinction between permissible and impermissible goods. Qur'an says *"... Eat of that which is lawful and good on the earth..."* (Al-Baqarah: 168).

In the Islamic jurisprudence, we also come across a hierarchy of needs. Imam Al-Shatibi has categorized human needs into three groups; i) Dharuriyah (necessities), ii) Hajiyah (conveniences) and iii) Tahsiniyah (refinements)[129]. In the hierarchical structure of needs given by Al-Shatibi, necessities include such activities and things that are essential to protect i) Iman (faith), ii) Nafs (life), iii) Aqal (intellect), iv) Nasl (progeny) and v) Mal (wealth). Thus, Islam recognizes physiological as well as aesthetic needs but requires moderation in consumption.

Endowment inequality and relative abundance of one or the other type of resource in this world does not provide any basis of superiority in Islamic social framework. It is only meant to test thankfulness, patience and fairness in interpersonal and socio-economic relations. Qur'an says: *"Is it they who would portion out the Mercy of your Lord? It is We Who portion out between them their livelihood in this world, and We raised some of them above others in ranks, so that some may employ others in their work. But the Mercy (Paradise) of your Lord (O Muhammad - pbuh) is better than the (wealth of this world) which they amass."* (Al Zukhruf: 32)

Qur'an says: *"And strain not your eyes in longing for the things We have given for enjoyment to various groups of them, the splendour of the life of this world that We may test them thereby. But the provision (good reward in the Hereafter) of your Lord is better and more lasting."* (Taha: 131).

Islam allows trade, but cautions against unfairness, exploitation and deceit. Qur'an says: *"Do not devour one another's property wrongfully, nor throw it before the judges in order to devour a portion of other's property sinfully and knowingly."* (Al-Baqarah: 188). In another place, Qur'an says: *"Do not devour another's property wrongfully – unless it be by trade based on mutual consent..."* (Al-Nisa: 29)

Islamic teachings related to commerce also strongly recommend fairness in trade dealings. Qur'an says: *"And measure full when you measure. And weigh with an even balance. This is better and its end is good."* (Al-Isra: 35). In another place, Qur'an says: *"Woe to those*

that deal in fraud, those who, when they have to receive by measure from men, exact full measure, but, when they have to give by measure or weight to men, give less than due. Do they not think that they will be called to account?" (Al-Mutaffifin: 1-4). Furthermore, Islam also emphasizes on fulfilling contractual obligations in mutual exchange. Qur'an says: *"O you who believe! Fulfil [your] obligations …"* (Al-Maida: 1)

Islam allows profit motive and using the profits for consumption and further investment. However, it discourages accumulation for the purpose of hoarding. Qur'an says: *"… They who hoard up gold and silver and spend it not in the way of* Allah*, unto them give tidings (O Muhammad) of a painful doom."* (Al-Tauba: 34).

Islamic teachings related to commerce denounce taking oaths for deceiving others. Qur'an says: *"… You resort to oaths as instruments of mutual deceit, so that a person might take greater advantage than another; although,* Allah *puts you to the test through this. Surely, on the Day of Resurrection, He will make clear the truth concerning the matters over which you differed."* (Al-Nahl: 92).

In commercial undertakings, Islam encourages documenting the terms of the agreement to mitigate the risk of moral hazard. Qur'an says: *"O Believers! Whenever you lend money for a particular period, write and someone among you must write it justly. And the one who can write must not refuse ..."* (Al-Baqarah: 282).

Islamic principles of trade allow credit transactions and debts but condemn defaulting on loans. Prophet Muhammad (pbuh) said: *"Any who takes out a loan, having resolved not to pay it back, will meet* Allah *as a thief." (*Sunan Ibn-e-Maja, Vol 3, Chapters on Charity, Hadith Number 2410).

Islamic principles of trade allow mutual bargaining to achieve the best result for oneself but recommend gentleness and softness in executing deals so as to avoid undue advantage. Prophet Muhammad (pbuh) said: *"May* Allah*'s mercy be on him who is lenient in his buying, selling, and in demanding back his money [or debts]."* (Sahih Bukhari, Vol 3, Book of Sales, Hadith Number 2076).

In selling goods, it is highly recommended that deceit is avoided in making and selling of products. Prophet Muhammad (pbuh) said: *"It is not permissible for a Muslim to sell his brother goods in which there is a defect without pointing that out to him."* (Sunan Ibn-e-Maja, Vol 3, Chapter on Business Transactions, Hadith Number 2246).

In another Hadith, Prophet Muhammad (pbuh) said: *"The seller and the buyer have the right to keep or return the goods as long as they have not parted or till they part; and if both the parties spoke the truth and described the defects and qualities [of the goods], then they would be blessed in their transaction, and if they told lies or hid something, then the blessings of their transaction would be lost."* (Sahih Bukhari, Vol 3, Book of Sales, Hadith Number 2079).

Deceit in contracts to get an unfair advantage is strongly condemned in Islam. Prophet Muhammad (pbuh) said: *"Whoever takes a false oath to deprive somebody of his property will meet* Allah *while He will be angry with him."* (Sahih Bukhari, Vol 3, Book of Watering, Hadith Number 2356).

Islam encourages the price discovery process to be natural and without any frictions and hindrances. To ensure that price is determined competitively without information asymmetries, Prophet Muhammad (pbuh) forbade a town dweller to sell on behalf of a Bedouin and to artificially inflate prices (Sahih Muslim, Vol 4, Book of Marriage, Hadith Number 3459). Prophet Muhammad (pbuh) forbade intercepting traders until they reach the markets with their goods. (Sahih Muslim, Vol 4, Book of Financial Transactions, Hadith Number 3821). Furthermore, in bidding for goods, assets or businesses, overbidding without having a genuine intention to buy (Al-Najash) is prohibited.

Speculative trades inflate prices and lead to artificial price bubbles and crises when these bubbles burst. To foster genuineness of trades and diminish the speculative motives, Prophet Muhammad (pbuh) said: *"He who buys food grain should not sell it until he has taken*

possession of it." (Sahih Muslim, Vol 4, Book of Financial Transactions, Hadith Number 3836)

In contemporary production processes, often labour is employed to produce the goods. In labour management and relations, Islam, unlike capitalism, gives due protection and credit to labour. To highlight the importance of fair treatment of labour, Prophet Muhammad (pbuh) said: *"I will be a foe to three persons on the Last Day: one of them being the one who, when he employs a person that has accomplished his duty, does not give him his due."* (Sahih Bukhari, Vol 3, Book of Hiring, Hadith Number 2270). On timely remuneration to labour, Prophet Muhammad (pbuh) said: *"Give the labour his wage before his sweat dries"* (Sunan Ibn-e-Maja, Vol 3, Book of Pawning, Hadith Number 2443).

Lastly, in another Hadith, Prophet Muhammad (pbuh) said: *"Those are your brothers [workers under you] who are around you;* Allah *has placed them under you. So, if anyone of you has someone under him, he should feed him out of what he himself eats, clothe him like what he himself puts on, and let him not put so much burden on him that he is not able to bear, [and if that be the case], then lend your help to him"* (Sahih Bukhari, Vol 3, Book of Manumission, Hadith Number 2545).

Chapter 5

Misconceptions in Contemporary Discourses

5.1. Misconceptions about the Faith-Based Worldview

Yuval Noah Harari is averse to faith in personal God which punishes and rewards. He writes "*You could never convince a monkey to give you a banana by promising him limitless bananas after death in monkey heaven.*[130]"

He is fond of making speculative conjectures about distant past and far future. Even if some of the speculative conjectures are not fully supported by evidence and science, his own journey into the distant past and far future in his two books shows this ability of humans as sentient beings to look into the distant past and far future and to think and reflect. This statement by Harari ignores how social scientists, especially economists see rational human beings.

Economists are fond of making lifetime utility functions or even overlapping generations models. They contend that humans make decisions based on expectations. When humans invest in a business venture, stock market or even lottery, it is the expected benefit in future that motivates people to part with their own money with no legal recourse to get it back with any guarantee in equity investments and lotteries.

Even if one does not reflect on this self-evident social phenomenon, take the same human tendency to science. Why scientists engage in laborious work to explore space, exoplanets and extra-terrestrial life. Gravitational waves and black hole's image were heard and seen after Albert Einstein's and Stephen Hawking's death. But their curiosity drove them to explore intensely till they could no more.

This statement by Harari implicitly seems to suggest that faith asks faithful people to be oblivious to life in the world. Nothing can be more far from truth than this conjecture. Qur'an has taught to seek goodness in both this world and the next (Al-Baqarah: 201). Even pursuit of economic sustenance while complying with ethical principles is regarded as virtuous act. Qur'an teaches to cooperate in goodness (Al-Maida: 2). If science as knowledge is pursued and applied in good ways to ease things for people and remove hardships and constraints in society, then it is not just a mundane activity, rather it is a spiritual activity which deserves reward in the eyes of Allah.

If there is no establishment of absolute justice in afterlife, then consider this. Instead of promising anything to the monkey, what if one takes away the banana it has? What if the monkey is harmed or killed? What if the same evil act is performed against humans at large? There is no solace or justice to most of the victims. If the evildoer can get away from punishment in this world, then what is objective morality? It is this concern which made even John Locke, who was an empiricist, liberal and the most influential of enlightenment scholars, to state: "*Promises, covenants, and oaths, which are the bonds of human society, can have no hold upon an atheist.*[131]"

Therefore, in an atheistic paradigm, all of us humans are like monkeys and other animals on land and oceans in this world. Like them, we only have survival instincts. Unsurprisingly, we have seen atrocities against humans and other life-forms on this planet at a colossal level in the last hundred years or so when atheism got more entrenched in society and politics. If stretched to limits, the idea of parallel universes and different states of reality existing in other universes in one sense negates the essence of goodness and evil. In parallel universes, everything possible plays out in some parallel universe. Then, free will or choice has no meaning. Goodness and evil has no meaning. Reality as we know it has no meaning. Yet, these ideas are floated as enlightening, rational, scientific, liberal, modern and a basis for a better future and society.

On the other hand, sometimes, it is also asked that why does God intervene in matters like how to live our lives if He is the Creator of the universe and everything in it. First, one needs to understand the faith based worldview. As explained earlier, this worldly life for humans is a trial where they are given conscience to differentiate between right and wrong actions and to exercise free will to choose right or wrong actions.

There are some matters which are predestined, like our gender, place of birth and so on. But, there are other matters in which we have a choice to either act in good or bad ways. The nature of test requires that we purify our souls. Thus, religion guides humans to achieve this goal by refraining from bad actions and engaging in righteous actions. The guidelines for economic enterprise, consumption, charitable giving, cleanliness, adopting right social etiquettes in dealing with humans as well as other living beings are all meant to ensure that we purify ourselves in accordance with the guidelines of the Creator so that we can earn eternal bliss in the life hereafter. If God has not guided us, then that would have been an anomaly. Since this worldly life is a test, the instructions to pass that test must also be present. The instructions given by religion are centred on purification of the soul through virtuous acts. Religion would not talk essentially about marketing, human resource management and financial management in commerce. But, it would guide that in our marketing, human resource management and financial management, we avoid deceit, dishonesty, unfairness, discrimination, avarice, exploitation and use of means which are deemed unethical in the religious instructions.

Qur'an mentions that nation of Shoaib (pbuh) used to ask Shoaib (pbuh) that why your religion intervenes in our commercial matters and asks us to refrain from unfair trade practices. It is this mind-set that is especially wrong from the perspective of faith. Accepting faith-based worldview does not just mean that we remain isolated from the world and just engage in worship, prayers and meditation. It requires that we strive to excel in ethical conduct in every aspect of life, be it commerce, social matters and family matters. The religious guidelines only guide us to achieve ethical purification in these matters. Apart from that, we are free to choose our worldly

matters. In fact, if we observe the ethical teachings in the worldly matters, then our commerce and conduct in society can also be regarded as worship. It means that worship is submission to Allah in all matters. Prophet Muhammad (pbuh) has guided that good speech, removing stones from someone's path, feeding one's family and seeking sustenance in permissible ways are all virtuous acts.

Another question that is sometimes asked is that why we get evidence for polytheism in earlier historical and archaeological evidence rather than monotheism. Is it because the primitive form of religion was polytheism and then came monotheism. To answer this, we need to understand that can we have physical and archaeological evidence for both belief-systems equally likely if we rely on archaeological evidence. Monotheism implies that there is only one and single God. On the other hand, polytheism implies that there are other gods besides one and only God. The single God has given them powers. All the scriptures in monotheistic faiths that we have denounce this lie toward God. Yet, people have believed in polytheism and have created idols for their assumed deities. In archaeological records, we discover idols. But, for monotheism, there should not be any such physical evidence because in monotheism, God is not many, but One. In pure forms of monotheism, God is not anthropomorphic.

History and anthropology of religion as described in historical scriptures confirm that initially, humans only believed in monotheism. Prophets (pbut) only taught monotheism to their nations. With the passage of time, people would turn away from the right path and adopt polytheism. To appear credible, they would not refrain from even corrupting the scripture. Then, to correct this tendency, Prophets (pbut) were again sent from time to time to remind about the original and pure form of faith, which is monotheism. Monotheism is the universal premise of all divine faiths and unadulterated historical records of all scriptures confirm that. This belief is also consistent with origin from Big Bang and design and fine tuning in the universe.

Another question that is raised sometimes is that why there are no records of Prophets (pbut) in other parts of the world. Qur'an

categorically states that Prophets (pbut) were sent to all nations. It is the problem of human society in the twenty first century that for us, events and civilizations thousands of years ago represent the distant past for which we have no or very limited historical record. The last two Prophets of Islam, i.e. Jesus (pbuh) and Muhammad (pbuh) have lived in the historical period and their influence has reached everywhere ever since their times. No wonder Michael H. Hart in his book '100 Most Influential Persons in the History' put both at the very top at the first and third place respectively in the most influential persons in history[132]. The companions of Prophet Muhammad (pbuh) who had seen Prophet Muhammad (pbuh) travelled far and wide to Central Asia, Europe, Africa and South Asia. The Muslim empire soon after Prophet Muhammad (pbuh) was spread over three continents including Africa, Asia and parts of Europe. The other parts of Europe comprised Christians. Therefore, in the historic times, we have a clear example of faith based teachings reaching the major centres of civilizations in the world. For the prehistoric times, we have religious scriptures confirming that people had received teachings from the Prophets (pbut) sent to their nations. Arabs in the Prophet Muhammad's (pbuh) time were reminded to ponder over the history and destiny of earlier nations which were known to them. In many historical records, it is confirmed that Arabs recognized the history of nations like Aad and Thamud. To Aad and Thamud, Hud (pbuh) and Saleh (pbuh) were sent to give message of Oneness of God.

On the other hand, every human being has an innate predisposition to seek God. When a person is informed that there is a Creator, the mind and heart accepts it like we accept water when thirsty. Scientists knowing this fact have tried to find a material explanation of this tendency through God Gene Hypothesis[133]. Thus, as far as belief in God and acting on right ways are concerned, all humans have the innate capacity to seek and believe in One God and act on conscience to choose righteous ways. That is the primary demand of faith from humans to believe in One God, act in good ways and remain cognizant of accountability before One God. Furthermore, Prophets (pbut) had brought message of God in all times. The message of last Prophet (pbuh) has been saved, preserved and disseminated all across the world. No wonder Michael Hart placed

Prophet Muhammad (pbuh) as the most influential person in all of human history. Thus, it is not the case that God's message has reached a few parts of the world and not others.

5.2. Gender Rights and Balance

Islam grants equal rights to all humans in almost all matters irrespective of gender. On the other hand, Islam identifies certain natural differences which entail that there can be effective institutionalization of the family system by having specialization of roles. It does not mean that the roles remain completely non-overlapping.

Islam provides generous rights to women in many matters and Muslim societies do not need to look beyond their faith when it comes to providing women human, civil and socioeconomic freedoms[134].

It also needs to be understood that Muslim countries are not a homogeneous group. Muslim countries show tremendous political, economic and cultural heterogeneity[135]. Thus, distinction between religion and culture can provide a flexible basis of legal and cultural changes in Muslim society[136].

For OIC countries where data is available, there are 16 out of 52 OIC countries whose proportion of women parliamentarians exceeds the average of middle-income countries. In 17 Muslim majority countries, legislation for ensuring equal remuneration has been made. In 16 Muslim majority countries, legislation for ensuring non-discrimination in hiring has been made. Furthermore, except in Suriname, there has been legislation to provide maternity leave in all OIC countries. Such legislation can ensure a long-term stay in labour force as well as re-entry into the labour force. In 38 Muslim majority countries, legislation for ensuring no child marriage has been made[137]. Nonetheless, in other countries where such legislation is yet to be made, it is not due to Islam. Rather, Islamic principles are favourable to equal remuneration to the same quantity and quality of work, non-discrimination in hiring and providing personal and social freedoms to women.

The institution of family is highly respected in Islam. Women are an indispensable part of this institution. As per Islamic worldview, mental and physical capabilities that we enjoy are the blessings of Allah and we hold them as a trust. Therefore, based on the differences in these mental and physical capabilities alone, no one is superior and powerful in the eyes of Allah.

As per Islam, following is a brief summary of women rights.

- Muslim women must educate themselves like men. Education is not only allowed, but it is also compulsory for women like for men (Source: Sunan Ibn-e-Majah, Book of Sunnah: *Hadith* No. 224).
- Women can choose an occupation and earn their livelihood. They are allowed to do that. But, they are not made responsible for it. Men are made responsible for it in the Islamic family system.
- Women have the right to own property and engage in trade. The first wife of Holy Prophet (pbuh) was a businesswoman. It was not until the late 1870s onwards in Europe that married women achieved the right to enter into contracts and to own property through Married Women's Property Act 1870. Also, women got the right to vote in the USA 100 years ago only through Nineteenth Amendment to the United States Constitution which was passed in 1919 and adopted in 1920.
- Women have the right to choose their husbands and the right to separate from their husbands.
- Married women are entitled to '*Mehr*' (wealth at the start of marriage) as well as '*Wirasat*' (prescribed share in wealth at the death of husband, children and parents).
- The mother must be respected three times more than the father according to a *Hadith* (Source: Sahih Al-Bukhari, Book of Manners, *Hadith* No. 5971).
- In another *Hadith*, it is said that 'paradise lies beneath mother's feet' as a symbolic representation to highlight the importance of how critical one's attitude towards mother

really is for having eternal success in the life hereafter. (Source: Sunan Al-Nisai, Book of *Jihad*, *Hadith* No. 3106)

- As per a *Hadith*, best men are considered those who are best to their wives. (Source: Jam-et-Tirmizi, Chapters on Suckling, *Hadith* No. 1162)
- No man is allowed to have extra-marital relationships with any other woman.
- Adultery and prostitution is a severe crime in Islam and can lead to capital punishment.

In fact, one of the arguments of non-believers was to say how we can accept this religion which gives such generous rights to women. Prophet Muhammad (pbuh) Himself married an old widow who was a businesswoman. Several non-Muslim historians, for this reason, hold the view that Islam modernized the Arab world at that time in terms of human rights and especially the women rights. Gustave Le Bon says in his book Arab Civilization:

> **"The principles of inheritance which have been determined in the Qur'an have a great deal of justice and fairness. The person who reads the Qur'an can perceive these concepts of justice and fairness in terms of inheritance through the verses I quoted. I should also point out the great level of efficiency in terms of general laws and rules derived from these verses. I have compared British, French and Islamic Laws of inheritance and found that Islam grants the wives the right of inheritance, which our laws are lacking while Westerners consider them to be ill-treated by the Muslim men.[138]"**

But, in reality, we also see things like honour killing and discouragement of education and social mobility of women in some parts of the Muslim world. Moreover, we also see strong encouragement for complete body covering in some Muslim societies. Briefly, we give an answer to these issues. Honour killing has nothing to do with Islam. It is to do with ignorance and especially about Islam. Education is a religious responsibility for all Muslims, men and women included. Regarding social mobility, there is no strict restriction, but a set of etiquette. The etiquette is also

prescribed for men (An-Nur: 30). Women are also prescribed to cover themselves modestly in public (An-Nur: 31). With this modesty, they play socio-economic and even political roles as well in most parts of the Muslim world. Regardless of how much the Muslim societies conform or do not conform to Islamic ideals, the Islamic standpoint does not negate the socio-economic mobility of women. Islam asks both men and women to lead their lives virtuously and it is only God-consciousness and good actions which make one person more successful than the other in the grand purpose of this life in the Islamic worldview.

The Islamic family system makes husbands responsible as head of the family. This also means that they have an additional responsibility since husbands are made primarily responsible for their family's financial sustainability. In Muslim societies, low labour force participation by women is not because of strict prohibitions by Islam. The economic and social role of women had remained important, especially in building social capital. The primary contribution and expected responsibility of women as mothers is to inculcate the right values as first nursery and learning institution for their children. Undocumented labour that women provide in agrarian economies understates their economic role in some Muslim countries where agriculture is still a significant contributor to the national income. As Muslim economies become more knowledge-based and industrialized in the future, the labour force participation of women will further increase in non-agricultural occupations.

The institution of family brings social capital into existence. It ensures empathy and responsibility. It brings a very lasting and durable social safety net. Islamic injunctions about how to treat orphans foster social security for individuals with special circumstances. Furthermore, the Islamic inheritance laws ensure that the wealth of the deceased is distributed widely among the members of the family of the deceased and this permanently and systematically ensures reducing concentration of wealth in every generation.

Empirical evidence shows that more crimes happen against women in societies where the family institution had been ignored or

established with different norms. The frequency of unwed mothers has risen significantly, especially in West. Since 1970, out-of-wedlock birth rates have soared from 24% in 1965 to 64% in 1990 for black infants and 18% from 3.1% for white infants during the same period in USA alone[139]. Moreover, reported crimes against women are more in numbers in regions with less Muslim population[140]. The 2016 National Crime Victimization Survey (NCVS), which measures sexual assaults and rapes that may not have been reported to the police, estimated that there were 431,840 incidents of rape or sexual assault in USA in 2015 alone[141].

5.3. Democratic Values

Samuel Huntington in his book raised the debate of clash of civilizations and argued that Islam has 'bloody borders'[142]. Let us look at the defence budget of major world economies. As per Stockholm International Peace Research Institute data for 2020, United States had spent $732 billion and China had spent $261 billion on defence[143]. Together, they spent close to $1 trillion on the military. How is this related to economics is not difficult to understand as development expenditure is compromised to spend on the military. As per the World Bank, there are 767 million people below the poverty line of $1.90 a day. It means that crude poverty gap is $531.9 billion (1.90 x 767,000,000 x 365) per year. The annual defence spending of the USA alone is more than what is required to pay $1.90 a day to each and every poor person in the world!

Samuel Huntington may classify democracy as an exclusive feature of western civilization[144]. However, Islam, instead of discouraging democratic culture, instructed Muslims to instigate consultative decision making (*Shura*) as a recurrent process and guiding principle for collective decision making in their socio-political systems (Al-Shura: 38).

Instead of autocracy and exploitation, Islamic principles engender strong accountability (*hisbah*), limit the government's power of levying exorbitant taxes and ensure socio-economic justice and civil equality. Islam directs Muslims to uphold justice and instructs that even enmity of a nation must not make them leave the path of

justice (Al-Maida: 8). Injustice is one of the main hurdles in bringing about peace in this world. Injustice in politics, in economics and in every sphere of life must be avoided as per Islam.

On the other hand, Secularism as a philosophy or comprehensive doctrine is not entirely democratic if it does not allow religion to prevail in the public sphere of life even democratically. Islam permits individual freedom in the choice and practice of one's religion or comprehensive doctrine. Some Muslim countries may not present the best examples of this commitment and they should correct themselves based on Islamic injunctions.

Secularism claims to be 'neutral' about religion, but in effect, it could turn out to be 'insensitive' to religion in several practical instances. Can we say there is a discrepancy between philosophy and practice? However, in the case of ideologies like Secularism, nothing is divine. Both its philosophy and practice is a result of human conception and attitudes. In its worst examples, the 'public' sphere of life can result in laws and policies which ban Hijab, beard, modest dress and in the case of a recent event, the ban of particular names for babies in some places in East Asia. 'Private' sphere of life then reduces to home alone. That is one's private sphere since ancient times anyways.

Those who suggest that Muslims should blindly follow the Western countries for higher morals, they must note that some of the Western countries who claim to be secular deprive Muslims and people from other religions to practice their religion and uphold their values and cultural symbols.

For instance, European countries where there is full-scale or limited-scale ban on Hijab include France, Belgium, Latvia, Netherlands, Spain, Italy, Denmark and Germany. But, European countries where prostitution is legal include: Armenia, Austria, Belgium, Czech Republic, Denmark, Estonia, Germany, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Monaco, Netherlands, Poland, Portugal, Slovakia and Switzerland.

5.4. Pluralism and Peaceful Coexistence

Jihad is a broad term and it encompasses academic, diplomatic and moral support and contribution to the righteous causes. In the specific meaning of armed struggle, Qur'an says that *Jihad* in the meaning of armed struggle can only be undertaken for the sake of eliminating injustice and persecution (Hajj: 39-40). The translation of the verse is as follows:

> **"Permission to fight is granted to those who are attacked, because they have been wronged-God indeed has the power to help them. They are those who have been driven out of their homes unjustly, only because they said, 'Our Lord is God'. If God did not repel the aggression of some people by means of others, monasteries, and churches and synagogues and mosques, wherein the name of God is much invoked, would surely be destroyed. God will surely help him who helps His cause - God is indeed powerful and mighty."**

Thus, it is not a fight against non-Muslims. It is a fight against injustice and persecution. It can only be undertaken as a last resort to eliminate injustice and persecution. It can only be undertaken by the government and cannot be done privately. *Jihad* cannot be undertaken for the expansion of the state, against innocents, against non-combatants and against the contract of peace if it has been signed.

According to Islamic worldview, Allah sent His messengers who invited mankind towards *Tawheed* (belief in no Creator except one), belief in afterlife accountability and to adopt righteous conduct in all spheres of life. Some of these messengers were sent as *Rasool,* who could not be subjugated or denied without consequences (Al-Mujadilah: 21). The struggle of these messengers sent as *Rasool* goes through i) propagation, ii) conclusive establishment of truth (*Itmam-e-Hujjat*), followed by a iii) divine appraisal. *Itmam-e-Hujjat* refers to the situation where truth is explained in its complete sense and whereby, further denial of the truth could only remain due to prejudice, pride or communal interests. After *Itmam-e-Hujjat*, the

direct recipients have to accept the message received. If they refuse the truth, then they have to face divine appraisal in this world.

According to the Islamic worldview, this world is a place for a test where the objective of the creation of man is obedience to Allah. Those who disbelieve without any reason and remain disobedient and thankless to their Creator, they will not be successful in the afterlife. Those who will be obedient, steadfast and morally upright, they will be successful and rewarded in the afterlife.

The direct recipients get the message of truth first-hand, so if they deny the truth after *Itmam-e-Hujjat*, they get the divine appraisal in this very world as well. Establishment of this divine justice becomes a way of remembrance for all human beings who are to come in this world that they have to face accountability in the afterlife for all their actions. This scheme of providing divine appraisal in this world as an experimental proof was not just specific with progeny of Prophet Ismail (pbuh), but also happened consistently with nation of Noah, nation of Aad, nation of Thamud, nation of Lut, nation of Shoaib, nation of Younus, nation of Moses and nation of Jesus before Prophet Muhammad (pbuh).

Non-believers of Prophet Muhammad (pbuh) were also dealt in the same way by Allah. The only difference was that in the case of Prophet Muhammad (pbuh), this divine punishment came in the form of the defeat of non-believers in the armed struggles with the believers. It is because in the case of Prophet Muhammad (pbuh), there were enough followers and these armed battles also became a way to distinguish true believers from *Munafiqun* (hypocrites) (Al-Anfal:17).

As a matter of fact, less than 800 non-believer combatants died altogether who fought in actual wars with the believers in the life of Prophet Muhammad (pbuh). In the pact of Hudaibia, Prophet Muhammad (pbuh) accepted even those unfair terms which were one-sided against Muslims in order to welcome and ensure peace. At the time of entering Makkah as the victor, Prophet Muhammad (pbuh) forgave all those who persecuted Muslims and who banished Muslims from their native lands.

Thus, in various time periods, messengers of Allah came with undeniable signs to their nations. When their nation decided to not accept the message which was received directly and conclusively with undeniable signs, then the non-believers were punished by Allah in the form of natural calamities if the believers were fewer in numbers or through the triumph of the believers over the non-believers as in the case of Prophet Muhammad (pbuh). The specific verses in Qur'an describing *Jihad* in the meaning of armed struggle against non-believers of those times are clear from the context that they refer to this particular scheme of divine justice as explained above. This history is the common heritage of all Abrahamic religions which represent almost two-thirds of all human population. Qur'anic verses about *Jihad* specifically with non-believers are often misunderstood by West and also misunderstood by some minority Muslims as well when they generalize them out of context.

In only the twentieth century, more than 200 million people lost their lives in wars. So, 5,500 humans lost their lives each day on average in the twentieth century in wars. That's like having a pandemic like Corona Virus taking more than 5,000 lives every day of every year in the whole twentieth century. Some estimates suggest that communist repression in the twentieth century killed around 100 million people. This current century has seen colossal persecution of Muslims in Myanmar, Kashmir, Palestine and Xinjiang.

Yet, Sam Harris who apparently denies free will still has this to say about a community of 1.6 billion Muslims and about Islam. In his 2004 book, Harris says (p.131):

> **"While it would be comforting to believe that our dialogue with the Muslim world has, as one of its possible outcomes, a future of mutual tolerance, nothing guarantees this result – least of all tenets of Islam. Given the constraints of Muslim orthodoxy, given the penalties within Islam for radical (and reasonable) adaption to modernity, I think it is clear that Islam must find some way to revise itself, peacefully or otherwise. What this will mean is not all obvious. What is**

obvious, however, is that the West must win the argument or win the war. All else will be bondage."

And in specific reference to the Afghan war, Harris adds (p.53):

"There is in fact no talking to some people. If they cannot be captured, and they often cannot, otherwise tolerant people may be justified killing them in self-defence. This is what the United States attempted in Afghanistan, and it is what we and other Western powers are bound to attempt, at an even greater cost to ourselves and to innocents abroad, elsewhere in the Muslim world. We will continue to spill blood in what is, at bottom, a war of ideas.[145]"

He further goes on to say in public that "*if an Islamist government acquired nuclear weapons, then 'a nuclear first strike of our own' may be 'the only course of action available to us'*".

With such extreme and fundamentalist position, Atheism, the way it is presented by New Atheists appears very much like a religion. In political landscape, Atheism has shown tremendous atrocities in communist regimes. The imperialism by secular democracies to wage transnational and proxy wars since the dawn of twenty first century has also jeopardised world peace. As an example of political assertiveness in atheistic worldview, Article 37 of the Albanian constitution of 1976 stated: "*The State recognizes no religion, and supports and carries out atheistic propaganda in order to implant a scientific materialistic world outlook in people*."

Even though Dr. Michael Ruse is an atheist, he is critical of the methods and approach of New Atheists to confront faith and faithful in a violent way. He writes in an essay that Prof. Dawkins speaks on faith and philosophy while having no knowledge and reading of the subject. He further says: "*I am indignant at the poor quality of the argumentation in Dawkins, Dennett, Hitchens, and all of the others in that group.*[146]" He considers New Atheism's approach as disaster and he admits that Prof. Dawkins's 'God Delusion' makes him feel ashamed as an atheist.

Jonathan Sacks also feels discomfort with the non-academic approach of New Atheism. He writes:

> **"Atheism deserves better than the new atheists whose methodology consists of criticizing religion without understanding it, quoting texts without contexts, taking exceptions as the rule, confusing folk belief with reflective theology, abusing, mocking, ridiculing, caricaturing, and demonizing religious faith and holding it responsible for the great crimes against humanity.[147]"**

It is deeply saddening that from a community of 1.6 billion people spreading in 7 continents of the world, individual instances from a small minority of deviants are picked in an effort to embarrass and tease peaceful mainstream Muslims. Close to 100 million Muslims now live in developed countries alone. There has to be acknowledgement and understanding of this fact that Islam and Muslims are two different things.

There can be a difference of opinion, but selectively picking particular types of arguments, people and actions and generalizing it over 1.6 billion people is unjustified. The primary objective of the religion of Islam is not its political enforcement. The basic thesis of religion is to inform people about their role and relation with the Creator and what moral attitudes, behaviour and actions can lead them to success in the life hereafter.

Faith must never be studied from the followers' actions. Christianity is not to be studied in the light of holocaust, colonization, slavery in Africa and crusades. In the light of the teachings of Jesus (pbuh), these events were wrong and in contradiction with the true teachings of Jesus (pbuh).

Likewise, we shall not judge liberal democracy or secular humanism based on world wars, invasions, transnational wars, undue sanctions, embargoes, political interference to topple democratic governments elsewhere, advancement in race to produce ever more destructive weapons of mass destruction, and paying lip service to thousands of people suffering from persecution in Myanmar, Gaza,

Kashmir and at other places. Indeed, these actions by the particular authorities do not represent the aspirations, values and views of a common man in the West.

Qur'an says that there is no compulsion in religion (Al-Baqarah: 256). This is the universal stance of Islam in the contemporary world. Islam does not teach hate and violence. It is a source of spiritual contentment and fulfilment for a quarter of the world's population. It is what teaches a believer in Islam to never tease, hurt or inflict any harm with hands or tongue no matter whether there is any law about it and whether it is being enforced or not. As per Islamic worldview, all people will be accountable on the Day of Judgment for all their intentions and actions.

There are also several misconceptions about the rights of non-Muslims in an Islamic socio-political framework. Non-Muslims can worship at their worship places. Furthermore, the government is responsible to safeguard their worship places. No non-Muslim can ever be forcibly converted to Islam. In Islam, Muslims believe in all Prophets sent by Allah including Ibrahim (pbuh), Moses (pbuh) and Jesus (pbuh).

In Muslim Spain, Christians and Jews lived together. With the advent of Islam, it became possible that people could choose to hold on to their beliefs which could be different from the state religion. Thus, Islam is against all forms of religious and socio-political persecution and discrimination. In the early Islamic period, non-Muslims in routine socio-economic milieu owned property and engaged in businesses. Non-Muslims who could not earn their livelihood received assistance from Bait-ul-Maal (national funds managed by the state) as well as enjoyed access to services of Islamic public endowments. In routine engagement and relation with people of different ideologies, Qur'an describes the manner of presenting its message as follows: *"Call men to the path of your Lord with wisdom and kindly exhortation and debate with them in the most befitting manner..."* (Al-Nahl: 125).

Conclusion

The book explored the origins taking cues from science, philosophy and faith. We exist in this universe on planet earth and our existence is possible by a fine-tuned balance between physical forces as explained in Section 1.1. There are some facts we know by observation and experience and some facts that we know by inference as explained in Section 2.1.

We have an ability to recognise our consciousness and conscience. Using our senses and rational faculties of inference, we come to know that the lifeless matter and living beings owe their existence to someone else due to their inability to explain their existence by self-creation. Matter has not created itself. Life in its complex and intelligent form in humans can also not be explained by self-creation. Matter is malleable in our hands and we can convert it into different ways to make aero planes, skyscrapers and pyramids. Using geo-engineering, we are striving to even transform climate of entire planet. We, having this ability or potential have also only come into existence in this world few hundred thousand years ago. Thus, even after gaining tremendous advances in artificial intelligence, we cannot claim to explain our existence through self-creation and creation of consciousness from unconsciousness. In a mindless universe, we find ourselves as sentient beings in search of the origin and meaning of life.

Through science, we can explain origin of universe from big bang and origin of life from a self-replicating molecule. But, the question of agency and will is outside the domain of science. If this universe had a beginning, then it cannot explain itself from within its constituents in the form of matter, energy, physical laws, physical forces and various kinds of life which evolved much later after the beginning of universe. All of these elements of the universe must also have an origin. A great many scientists even including those who

are agnostics and atheists find that there is a respectable case and reason for a deity. Some explain it as watchmaker or blind watchmaker. Some describe it as mathematician giving birth to laws and mathematics in the universe and its working. Science can help us thus far as explained in Chapter 2. Those who believe in scientism stop at this point and do not entertain the questions of purpose and meaning which are beyond the reach of science.

Nonetheless, logic and human curiosity demands that we go further in search, if not with science, then with our ability to infer the unseen from the seen. Using logic and history, we can also delve further. Can we turn to the Creator and learn the purpose and meaning of life.

Faith in God is not a figment of imagination. It is the widely held belief in entire human history as far back as we go in history from available historical records. It has an ontological rather than just a cultural basis. This belief would reflect in culture, but it does not mean that it is a creation of human mind to engineer faith in God just like money and agriculture. We know that money is a medium of exchange in society and agriculture is a way of gaining economic sustenance in society. Religious belief is not held like a tool to do something. Faith in One God beyond this universe and faith in afterlife accountability transcend world as well as this life.

There can only be one and only God unfolding universe from the point of infinitesimal singularity through Big Bang. It happened in such a precise way that we are able to go back to a fraction within second of that event and then explain the physical processes from that point onwards to now and far future.

In addition to giving consciousness and conscience which helps us in acknowledging uncreated Creator and differentiate right from wrong actions in our lives, the uncreated Creator has given humans external guidance through messengers. All monotheist religions comprising almost two-thirds of all human population in the last two thousand years of historic periods have agreement on this. The last two messengers, Jesus (pbuh) and Muhammad (pbuh) have lived in historic times and their teachings are available. It is also probable

that over the period of time, the teachings of earlier messengers (pbut) have been adulterated by humans. That is why, Qur'an as the last divine word of God, has been especially preserved and through verbal and written transmission, it is available to us in its original and authentic form. The history and future described by Qur'an has been found to be perfectly accurate. Its description of nature which comes only as a reminder to humans to reflect is also consistent with modern science as shown in Chapter 3.

Then, this book has presented the faith-based worldview in the words of God Himself. Chapter 3 gave a detailed account of faith-based worldview in the last divine words of God on this earth. Then, Chapter 4 also showed that how faith gives us values for righteous conduct in our relation to the environment, other life-forms and other humans like us in society. The last chapter has made an effort to clarify misconceptions about faith. It discussed how faith deals with gender rights, democratic values and pluralism.

It is hoped that this book has served the purpose to clarify positions of theism and atheism and science and faith. We all inhabit this planet and need to live with our differences. Peaceful co-existence will also depend on clarifying misconceptions so that we are able to understand each other's perspectives. It was an effort towards that end and it is hoped it has helped in contributing to this aim.

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